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DOMESTIC ENGINEERING

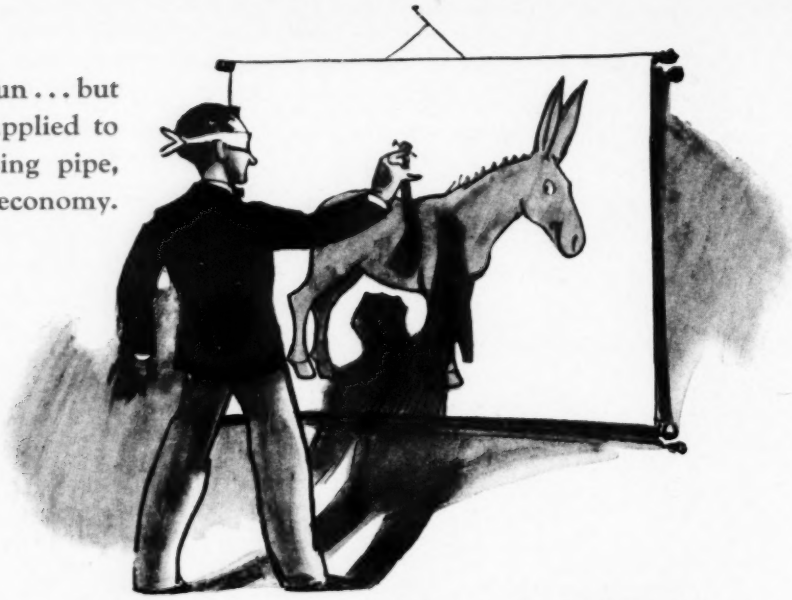
DECEMBER
1933

...TIC HEAT AND AIR
...TIONING SECTION—
PAGE 35

... AND BAR EQUIP-
...MENT SECTION—
PAGE 101

Plumbing & Heating Contracting and Merchandising

blindfold games may be fun . . . but they're *expensive* when applied to pipe selection. In choosing pipe, KNOWLEDGE means true economy.



Here's the Way to Be SURE

You are putting the RIGHT pipe in the RIGHT place . . .

You don't need to be an expert to be *right every time* on pipe selection. Answer two simple questions and you'll KNOW that the pipe you choose will serve long and satisfactorily. Those questions are, "What are the conditions under which the pipe must serve?" and "Which kind of pipe meets the conditions *best?*"

Where corrosion is severe . . . where vibration and strain must be resisted . . . where high temperatures or abrasive action must be overcome . . . Reading Genuine Puddled Wrought Iron Pipe is THE pipe. Under such conditions it saves the *most* money by lasting the longest. And that isn't hearsay . . . it's a fact proved by four generations of actual use in the Nation's buildings and industries.

When Reading Genuine Puddled Wrought Iron Pipe is needed, be sure that you get it!

Here are Some of the Places Where Reading Genuine Puddled Wrought Iron Pipe Serves Best

- *For Cold and Hot Water Lines*

  Reading Puddled Iron Pipe assures *generations* of trouble-free service with all ordinarily corrosive waters. In thousands of such installations, it has been proved that the life of Reading Pipe is from two to five times longer than that of ordinary pipe.

- *For Drains*

  Alternating wet and dry conditions often mean swift death for most kinds of pipe. Reading Puddled Iron Pipe is especially adapted to give long service under such conditions.

- *For Heating Supply Risers, Distributing Mains and Return Lines*

  Due to its high melting point (300 Degrees F. higher than that of steel) and because of the presence of non-metallic silicate, Reading Puddled Iron is far less subject to destructive oxidation than other ferrous metals.

- *For Vents*

  When exposed to atmospheric corrosion, Reading Puddled Iron Pipe forms *two* hard impervious films of oxide which effectively prevent destructive pitting and penetration of rust. Corrosion is actually *stifled.*

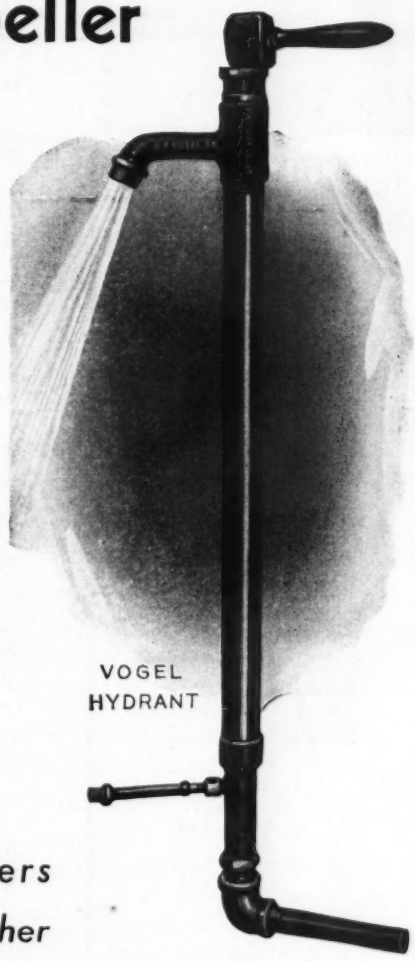
READING GENUINE PUDDLED WROUGHT IRON SINCE 1848

READING IRON COMPANY, PHILADELPHIA

SCIENCE & INVENTION HAVE NEVER FOUND A SATISFACTORY SUBSTITUTE FOR GENUINE PUDDLED WROUGHT IRON

The Vogel Frost-Proof Hydrant is a Great Cold Weather Seller

THE Vogel Hydrant assures a supply of water outside or in unheated garages, and can never freeze even in the coldest weather. This is a convenience your customers are willing to pay for, especially when you tell them the small cost of installing one. And you can guarantee the Vogel Frost-Proof Hydrant to last for years without adjustments or repairs.

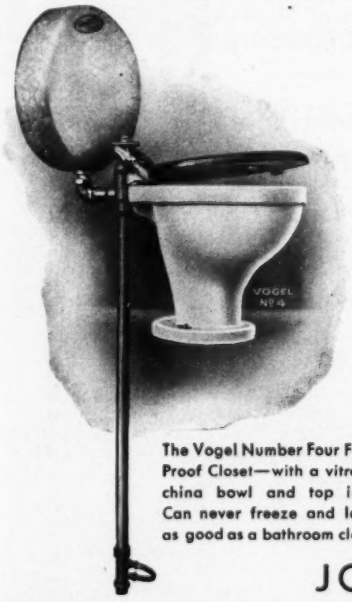


Vogel Frost-Proof Hydrant. Insures a supply of water outside the house winter and summer.

Imprinted literature upon request

Tell your customers about this cold-weather convenience, and make some extra profits.

★

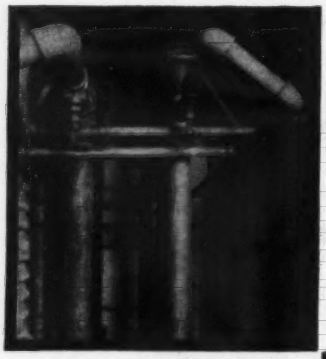


The Vogel Number Four Frost-Proof Closet—with a vitreous china bowl and top inlet. Can never freeze and looks as good as a bathroom closet.

NRA MEMBER U.S. WE DO OUR PART

JOSEPH A. VOGEL CO.
Wilmington, Del. St. Louis, Mo.

VOGEL PATENTED ***Frost-Proof Products***



DOMESTIC ENGINEERING

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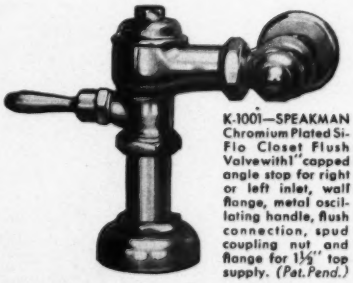
What do you tell your customers who complain about NOISY Flush Valves?...

Here's what to say:

"Yes, I can now stop all those noises with the new

SPEAKMAN *SI-FLO* Flush Valve."



K-1001—SPEAKMAN Chromium Plated Si-Flo Closet Flush Valve with 1" capped angle stop for right or left inlet, wall flange, metal oscillating handle, flush connection, spud coupling nut and flange for 1½" top supply. *(Pat. Pend.)*

Compact piston unit of SPEAKMAN Si-Flo Flush Valve—the complete working parts. Can be replaced at almost negligible cost, and in five minutes.

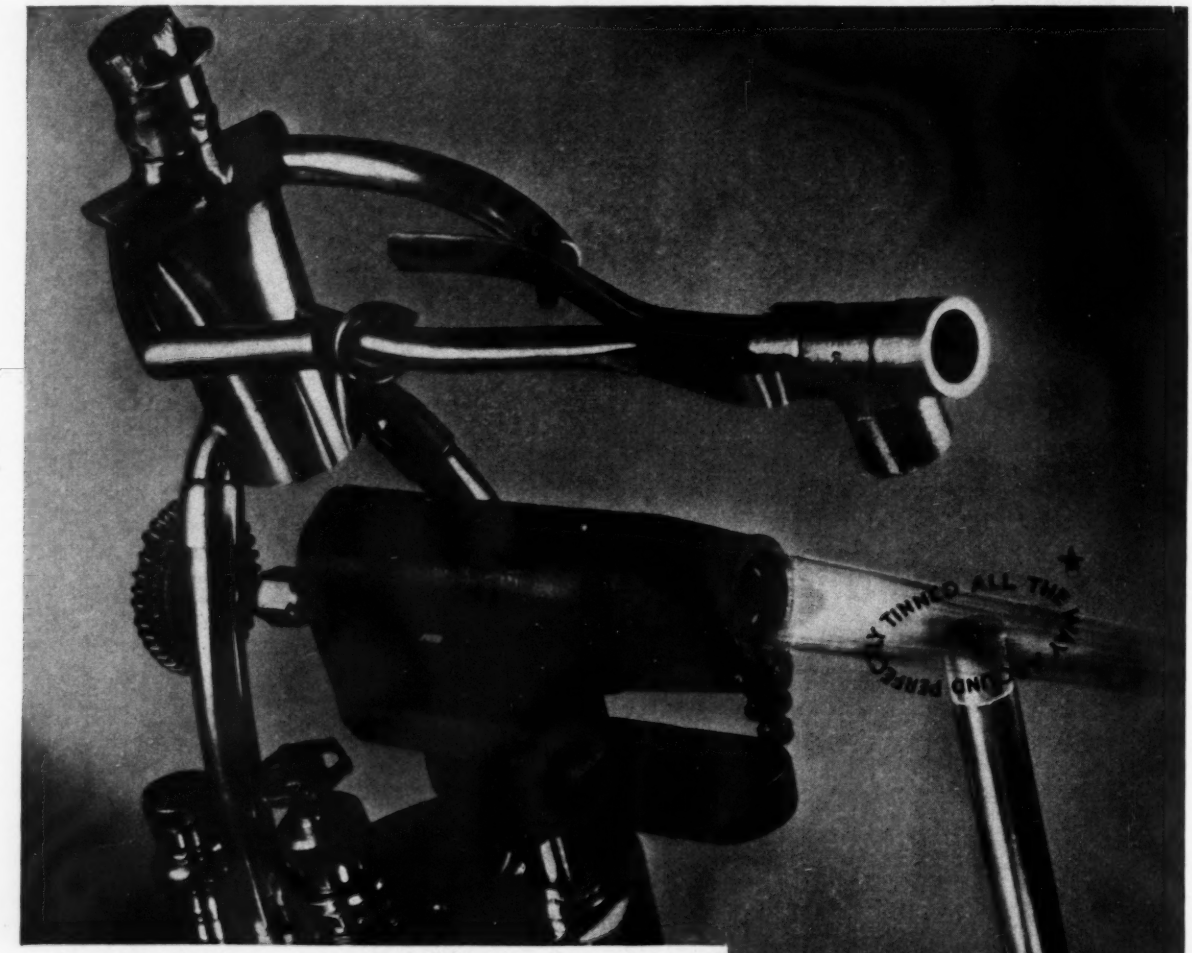
And you can; for this new silent flush valve replaces any type of noise-making flush valve. It stops all noises from forming; line noises, screeching, hissing and the closing-off "bump". Because you couldn't stop these noises before, you have been criticized by your customers who were continually embarrassed and irritated by noisy flush valves. No longer do you have to stand for this criticism—and don't do it! Tell your customers that it's no use fooling around with a noise-maker—Put in a Si-Flo. It fits all makes of bowls and roughs-in on standard measurements.

We have literature which you can send to your customers, to hotels, apartments, hospitals. It will be imprinted with your name and address.

SPEAKMAN COMPANY, Wilmington, Delaware

SPEAKMAN
Showers & Fixtures

PERFECTLY TINNED ALL THE WAY AROUND ★



Re-heat a Chase sweated joint. Pull the fitting off before the solder has a chance to cool—and you'll see an unbroken coating of solder completely covering the end of the tubing. That's your customer's protection against leaks. Even 5,000 lbs. pressure can't force water through a Chase sweated joint!

• • •

SEE how the solder flowed completely around the part of the tube that was sweated into the Chase Cast Tee, making a perfect joint. And speaking of Tees, Chase now makes *two* kinds—the Cast Tee that the copper-tube-man is lifting and the Saddle Tee shown in the lower right-hand corner of the photograph. It's just a matter of individual preference which you use.

Good brass and CHASE *copper products*

CHASE SWEAT FITTINGS

CHASE BRASS & COPPER CO.—Incorporated
WATERBURY, CONN.

CHICAGO FAUCET NEWS

Issued Monthly by The Chicago Faucet Co., 2700-22 N. Crawford Ave., Chicago, Ill., Vol. 2, No. 2

ATTRACTIVE DISPLAY IS FREE WITH 444'S

What has become of the big gilded faucets that used to hang over the door of almost every plumbing shop from Winepasoki to Uby Dam? We suspect that they're now along side of the wooden cigar indians and those jewelers' clocks with immovable painted hands.

Anyhow those old faucets did say "plumbing shop" in all languages—and even today there is no better symbol for your place of business than a faucet.

All right—here it is—not only a symbol but a handsome display in color with a real No. 444 faucet that lends prestige to your store. The display is free if you buy two or more Number 444 Classic side handle swing spout sink faucets. An interesting feature is the neat, but not gaudy, N. R. A. Emblem on the top—something you want in your window.

Ask for prices and order blanks—there's still time to use this as the centerpiece of a Christmas Window.

The display rack is done in red, blue, white and black with permanent oil colors. It is a sturdy, permanent unit.

While we're on the subject, there's no more unusual or welcome gift than a swing-spout sink faucet, is there? Why not put that thought in your window, too? A holly wreath around our display, for instance. People rack their brains every Christmas for "something different"—something thoughtful—and particularly within family circles there is nothing that make a more acceptable gift than faucets, Add-a-showers, etc.

TEST SHOWS BROWNIE SHOWER HEAD PAYS ITS WAY

People buy shower heads because they want a sharp energizing shower of water—and no shower head fills this requirement better than a Brownie.
But the Brownie Shower Head, while giving a better shower, does it with less water! Sounds like Herman the Great, doesn't it? But tests prove that the Brownie performs this magic. At 50 pounds water pressure the customary 4-inch shower head will discharge 10½ gallons a minute, while the Brownie will discharge only 5 gallons. Hundreds have installed Brownies because they give a more sprightly shower and pay for themselves in water-saving and fuel-saving. Remember that we can supply shampoo sprays and "Add-a-showers" with Brownie Shower Heads.

Remember?

Do you remember Christmas way back when it WAS Christmas? . . . . .

A lot of babbling kids jammed into a stuffy little church . . . wide-eyes glued on the biggest Christmas tree in the whole world with real tallow candles winking through its needles as tungsten bulbs never wink . . . suffocating suspense while the doors at either side of the altar open and close ominously . . . and then, just when the suspense became unbearable, it happened! The old church house was rocked by a bedlam of hysterial screaming. Someone had spotted Saint Nick in the papier-mache chimney and touched off the fuse.

Elder Jones' thin voice finally pierced the din. "Please—please—silence—please—so that we can hear the names.!"

"Hear the names!" That deserved silence, and got it. And then came *all* the *names*—rich and poor—sinner and saint—a present for all . . . and the greatest present in the world . . . pink mosquito bar stockings . . . bottomless treasure chests overflowing with whistles, bubble pipes, jumping jacks, colored cards and so on forever.

Oh, of course the Ladies Aid had fitted it all inside of a slim budget . . . but who cared in those good old days?

△ △ △ △ △ △ △ △

And now drift down the years to the hot-cha, hey-dee-day, "twenties." Kids that once thrilled at pink mosquito bar and tinsel asking dad how much longer he is going to put up with a 118-inch wheel base car. Neighbors vying with each other as to the number of light bulbs they can crowd onto their lawns and foliage . . . and featuring the cost thereof. Greeting cards cut in steel and wishing you a steel Christmas at your own expense . . . Christmas bloated . . . Christmas over-stuffed . . . Christmas chromium-plated . . . bought and paid for—or at least bought, if not paid for. Santa Claus looking on in horror, and longing for the warmth of his own North Pole retreat.

△ △ △ △ △ △ △ △

Well—after all—the moon and the stars are the same as they were in '92. So how about a real old-time Christmas this year? The recipe is simple . . . so simple that little children can understand it better than grown-ups. You don't need riches, you don't need costly presents, you don't even need a Christmas tree or a turkey—

All you need is a heart!

A TRIUMPH
OF NEARLY 50 YEARS OF PROGRESS

FOR almost half a century "Standard" has played an important part in the development of every phase of modern plumbing fixtures. Here is shown the important developments in closet design from the 1885 model made by Standard Mfg. Co. (founded 1876) to the latest achievement of Standard Sanitary Mfg. Co. (founded 1900)—the "Standard" Quiet One-Piece Closet—a triumph of nearly 50 years of progress.

"Standard" ONE-PIECE CLOSET

"Standard" Quiet One-Piece Closet. So quiet it cannot be heard outside the bathroom — so compact it can be placed in an alcove or against a sloping wall—so attractive it adds to the beauty of any bathroom.

CONSUMERS' PRICE, IN WHITE $45.85
Price subject to change without notice

NRA WE DO OUR PART

"Standard" PLUMBING FIXTURES

Standard Sanitary Mfg. Co.
PITTSBURGH, PA.
Division of AMERICAN RADIATOR & STANDARD SANITARY CORPORATION

This Year MR. PLUMBER

...You Can Play Santa Claus!

PRACTICAL Christmas gifts are in order...*and* YOU *can sell them!* If Dad knows what will make Mother happy, he'll give her a Monel Metal sink.

And if that's too big a purchase right now, show him one of your "Smartline" Tables.

You Have 69 Chances to Win

With 57 models of sinks and cabinet tops...at prices that start in the low twenties...and with Ray Patten's jewel-like "Smartline" table in a range of 12 models at even LOWER *prices...you* CAN'T *lose a sale to the man hunting a permanent gift.*

Dress up your store a bit this holiday season. Hang a wreath of holly in your window. Tie red ribbon bows on your Monel Metal sinks and tables.

And maybe you'll capture a little Christmas cheer for yourself.

Successful men in the trade who have *gone after* Christmas business have found it.

We Do Our Part

By carrying full pages in the leading national magazines, we are telling the Monel Metal story to 10 million readers. This makes your selling job easier. Cash in on it! Write today for prices and the fall 1933 catalog. Display a Monel Metal sink or table.

THE INTERNATIONAL NICKEL COMPANY, INC.

67 WALL STREET, NEW YORK, N. Y.

NRA

Monel Metal is a registered trade-mark applied to an alloy containing approximately two-thirds Nickel and one-third copper. Monel Metal is mined, smelted, refined, rolled and marketed solely by International Nickel.

MONEL METAL

FOLKS WHO "GIVE SOMETHING FOR THE HOME" ARE *"NATURALS"* FOR YOUR MONEL METAL SINKS AND TABLES

"My cards are on the table..."
To Thousands of Lucky Housewives a new and beautiful piece of Monel Metal Furniture
Some advertisers go pretty far for a testimonial. We've gone farther. To the North Pole, in fact. Read what good old Santa has to say about the new "Smartline" Table:
"Pardon me for what may seem like boasting, but I am known as the world's leading specialist in gifts. I had to be good to get where I am and don't think it's any cinch finding just the right present for each one of the world's two billion people.
"So you can't blame me for snapping up this table. In the first place, it has only just been put on the market and my experience is that folks like to receive new things. It is beautifully designed; it is made of a material that every magazine reader has heard of; and it will be a long time before it ever wears out."
Do you own a Monel Metal sink? Or washing machine? Cabinet top? Range top? Or hot water tank? If so, you'll understand Santa's enthusiasm about the table. You'll bring to mind your own experience with Monel Metal. Its lovely surface... reminiscent of silver and platinum. Its solid honesty... nothing to crack or chip off. Its absolute freedom from rust.
You'll think of its smoothness... making it easy to clean. Its strength and toughness... making it hard to dent or scratch. Its resistance to corrosion ...making it practically impervious to the attacks of food ju
One more thought
to occur. "Must
attractive piece of furniture be
to the kitchen?" Certainly not.
perfectly appropriate for many
in the house. Ideal for the
the bathroom, or the game-room
Down at the right-hand corn
page a couple of blank spaces
await your pen or pencil. Le
you where in your particular
hood this paragon of gifts may
and purchased.
THE INTERNATIONAL NICKEL COMP
67 Wall Street, New York, N. Y.
MONEL METAL

This advertisement appears in seven national magazines this month.

Crane Compeer Lavatory C-182

"One good turn deserves another"

The plumbing and heating contractor's appreciation of quality won acceptance for Crane materials. His skillful installations assured the proper functioning of those materials. Together, he and Crane Co. have had a big part in transforming the bathroom from a little white cubby-hole to a more spacious, more luxurious, more profitable room.

This is sound justification for the Crane policy of recognizing the importance of the plumbing contractor in every sale and installation. In the future as in the past we shall build through mutual co-operation.

NRA WE DO OUR PART

CRANE

CRANE CO., GENERAL OFFICES: 836 S. MICHIGAN AVE., CHICAGO
NEW YORK: 23 WEST 44TH STREET
Branches and Sales Offices in One Hundred and Sixty Cities

VALVES, FITTINGS, FABRICATED PIPE, PUMPS, HEATING AND PLUMBING MATERIAL

The popularity of EVERDUR for non-rust tanks *continues to grow!*

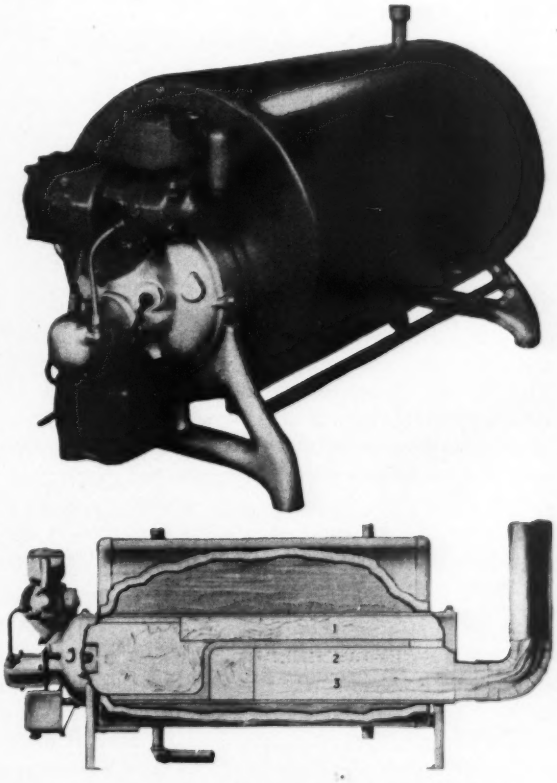
...now also available in oil burning water heaters

FOR water heaters fired with gas or with oil. For automatic electric water heaters and for range boilers. No matter what the type of water heater or the kind of fuel, Everdur is fast becoming *the* standard metal for rustless tanks.

The public has taken to the Everdur story. And why not? The use of rustless brass or copper water pipe has *proved* the economy of durable metals which *cannot* rust. Home owners generally . . . dissatisfied with tanks that rust . . . prefer high quality Everdur tanks to the trouble and expense of short-lived, rustable equipment.

And manufacturers of automatic heaters and range boilers . . . 28 of the leading ones throughout the country...offer their equipment with Everdur tanks. Everdur is copper made as strong as medium carbon steel by alloying with silicon and manganese. Being rustless, strong and readily welded, Everdur makes up into tanks that meet every specification and the most rigid tests.

Last but not least, Everdur equipment nets greater profits to plumbing contractors . . . which is one reason why we suggest that you, too, push the sale of Everdur range boilers and heaters with Everdur tanks. Additional information and names of 28 manufacturers furnished on request. The American Brass Company, General Offices: Waterbury, Connecticut.



The rust-proof model of The WILLIAMS OIL-O-MATIC Hot Water Heater for home and commercial use, made by Williams Oil-O-Matic Heating Corporation, Bloomington, Illinois, is furnished with an all-welded tank of *rustless* Everdur Cutaway view shows details of construction.

See Our Exhibit in Space No 45
Third International Heating & Ventilating Exposition, Grand Central Palace, New York
February 5th to 9th, 1934

ANACONDA from mine to consumer

Tanks of EVERDUR STRENGTHENED COPPER

AN ANACONDA METAL · MADE SOLELY BY THE AMERICAN BRASS COMPANY

Thanks:
I have been taking your magazine for some time and I like your Question and Answer Department very much.
D. B. H., New Jersey

BETWEEN OURSELVES

Here's Christmas Again

WITH Santa Claus running up and down our front cover, any question about the rapid approach of Christmas can be answered. And reminding us of the nearing holidays, are letters from readers asking about window trimming and about seasonable items and sales for the year-end trading.

Changing an Old Habit

SOME WEEKS AGO, we started to collect for our readers suggestions, photographs and sales ideas which would help them translate this Christmas into a period of increased sales. Not very long ago, the thought of presenting a plumbing or a heating product as a Christmas gift was so uncommon as to make the suggestion appear unreasonable. But the familiar depression has changed many things, some for the better and this is one of them.

Old Style Buying

CHRISTMAS GIFTS not so long ago were many times expensive and sometimes useless. The big day of remembrance for family and friends was marked by giving articles which we may have wanted but their price and doubtful usefulness always kept us from buying them during the rest of the year. So we plunged at Christmas and showed up at home with a costly knick-knack which was first proudly displayed in the living room and is now gathering dust in the attic.

The New Style

NOW WE WANT both value and utility and few industries can offer both qualities in greater degree than our own. From readers' show windows, from the gift suggestions of manufacturers, we have gathered an attractively illustrated as well as a practical grouping of items which will make any home a happier one on Christmas and a more comfortable one on every other day throughout the year. You'll find it interesting.

Electrical Facts

IT'S SURPRISING how many new products which the plumbing and heating contractor and dealer is called upon to sell and install, use electricity in one way or another. Inquiries coming to this office are more frequently asking for information about electrical problems, about the servicing of such equipment. A fundamental knowledge of electricity has become essential to the plumbing and heating man and that is why we are interested in the article in this issue which runs easily but fully over those very factors which you will find it worth knowing.

Dolan and Olson

DOLAN AND OLSON are back with another episode in their interesting efforts to find both profits, fun and valuable experience in the day-to-day experiences of a plumbing store.

Enforcing Plumbing Code

FROM Birmingham, Ala., comes a report of an ordinance which is proving a real help in putting law and order into the plumbing business. The codes which most city councils, many state legislatures and even the national government have recognized as essential to protect the American public from the ills of poor plumbing, have too frequently been passed and then forgotten or ignored in enforcement. The merits of such laws have been proved time and again. When passed, they should be observed. Birmingham is trying out a new plan which the licensed and qualified master plumbers report is accomplishing results.

A New Style Home

AN AIR conditioning engineer is carrying out home tests under ideal conditions. He is living with his family in a home where every phase of air conditioning is being subjected not only to tests with scientific recording instruments but balanced against the likes and dislikes of a normal family of grown-ups and youngsters. He tells you in the first article in the Automatic Heat and Air Conditioning Section what he is doing, what he has found out and what is still being looked for. It's an interesting picture of air conditioning in the American home—now and probably in the future.

Repeal Brings Business

THE REPEAL of prohibition is bringing another spurt in the beer and bar equipment market. Those many readers who have been active in servicing that field since the relegalization of beer have had more time to prepare for this change. A grouping of articles in that special section puts at the disposal of readers sales ideas and practical suggestions for realizing business from this big, new market.

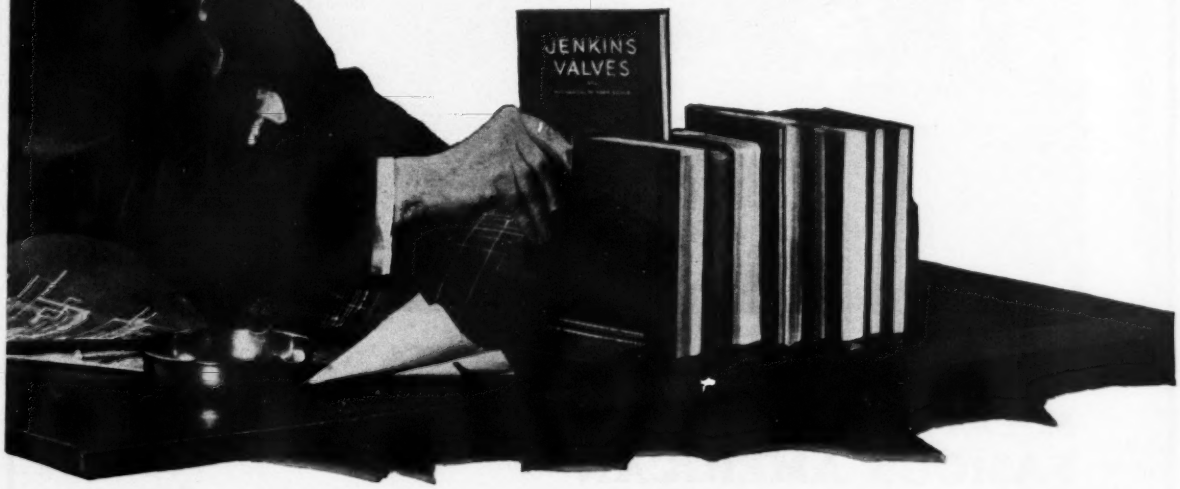
Busier Days Ahead

WITH BUSINESS upturn more clearly apparent, with the government's huge expenditures adding force daily to the country's buying power, better and busier days are ahead.

Your Editor

"I've Needed a Good Book on Valves

—and the new Jenkins Catalog is a real help in working out valve and valve layout problems"



ONE ENGINEER SAYS...

"I know of no engineering manual which gives as much practical, helpful information on valves and layouts as I find in the Data Section of this Catalog."

•

Busy engineers, contractors and architects by the hundreds have taken time to write in their praise for the new Jenkins Catalog. Many express the thought that this is "the first really thorough and helpful book on valves ever published". Pleasant tributes. However, it should be a good reference book. Jenkins Bros. had an exceptional knowledge of valves... to put into its 264 pages. And Jenkins spent the months of time and thousands of dollars necessary to make a superior catalog.

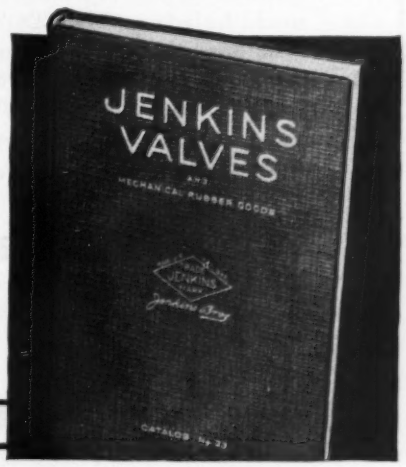
One of the features which keeps this new Catalog within easy reach of men who must deal with valves is the large Engineering Data Section. This part of the book actually is a well arranged, practical encyclopedia of information constantly needed.

Equal praise, though, goes to the section on Jenkins Valves. Praise for the unusually complete description which makes it easier to pick the correct valve for a job. Praise for the improved indexing which tells at a glance where to find data on any one of *more than 400 different Jenkins Valves.*

Keep the new Jenkins Catalog handy. It will save you time and money. For any Jenkins Valve you may select is backed by—

A FAIR OFFER—*If you will put a Jenkins Valve to a service test on the worst place you can find, where you cannot keep other valves tight, and if it is not perfectly tight, or does not hold steam, oils, acids, water or other fluids, longer than any other valve, you may return it and your money will be refunded.*

JENKINS BROS., 80 White Street, New York; 510 Main St., Bridgeport, Conn.; 524 Atlantic Ave., Boston, Mass.; 133 No. Seventh St., Philadelphia, Pa.; 822 Washington Blvd., Chicago, Ill.; JENKINS BROS., Ltd., Montreal; London

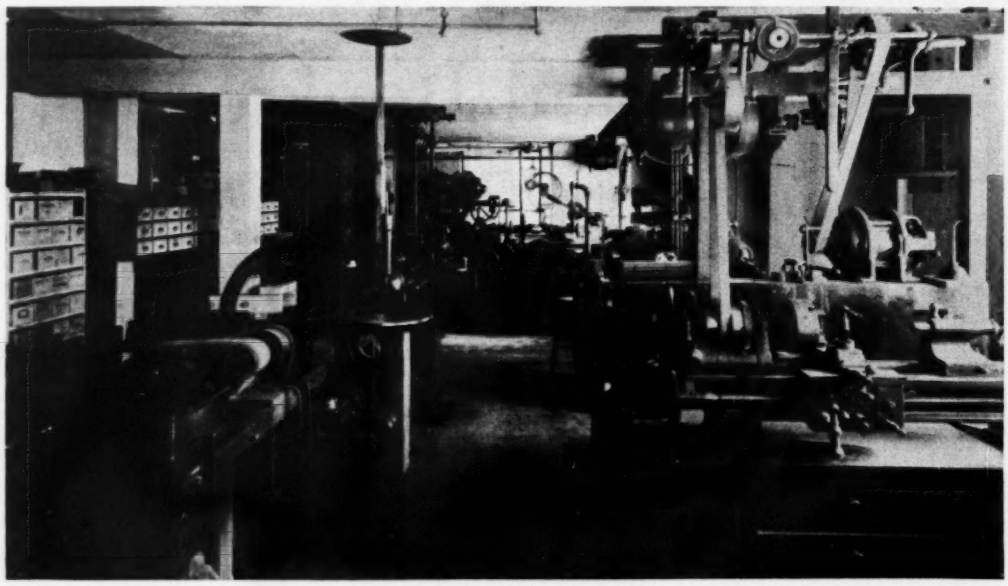


Jenkins Valves

BRONZE — IRON — STEEL SINCE 1864

NRA WE DO OUR PART

OBTAINABLE THROUGH YOUR SUPPLY HOUSE



MAXFIELD PARRISH— FAMOUS AMERICAN ARTIST SAYS

"SOMEBODY SAT UP LATE TO CREATE 'TOLEDO' TOOLS."

Millions of Americans have admired the paintings of Maxfield Parrish, famous American Artist. A master painter and he is also a workman of excellence in other lines, and we show above a view of one corner of his machine shop through which one passes on the way to the second floor studio.

Located far off the beaten trail in the mountains of Vermont, Mr. Parrish naturally would include a "TOLEDO" tool in his equipment and writes us, "You are an artist in your line—that is evident—for the ease with which a person can thread a 2" pipe and the sharp clean threads produced shows that somebody sat up late to create the 'TOLEDO' brand."

No other pipe tools will give you the satisfaction and service that you will find in "TOLEDO" tools. A post card request will bring you the complete "TOLEDO" catalog.

THE TOLEDO PIPE THREADING MACHINE CO.

TOLEDO, OHIO **NEW YORK OFFICE: 72 LAFAYETTE ST.**

"TOLEDO"

OUR INDUSTRY

December, 1933

Help from the Government

WITH the federal government pouring money into thousands of projects and pockets, the American business man will inevitably begin to feel the effect. He will begin to see it in an increase in trade, in a larger volume of business. He may be wondering about the long-time effects but the close-up view will be encouraging. And from one angle of study, it is the close-up result which is the more important provided a definite business revival is thus encouraged.

Will Aid All Business

ESTIMATES put these federal expenditures at one-tenth of the country's present annual business. Consequently, the powerful, present effect from these appropriations is readily apparent. Coupled with the growing conviction that business is starting up again after dropping back from its peak of last summer, the explanation for the greater confidence of many business men is clear. The slowing down of the past few months left us still well above the depths of last spring, so that we are in the familiar cycle of forging ahead, dropping back a little when the pace gets too rapid and then springing forward to greater heights and to more business.

Of particular interest to our industry is the efforts to revive the construction industry. While much of that effort is still in the stage of discussion, it is worth remembering that much of the federal funds will find their way into one or the other branches of that huge and many-sided industry.

Even the hundreds of millions going into relief measures means merchants with debts being paid, landlords with rents coming in and a greater hopefulness and buoyancy among those to whom our industry sells.

$21,000,000 Every Day

A FEW days ago, we had a representative check over the public works program. He found that in 18 weeks, four-fifths of the $3,300,000,000 fund had been allotted. For 126 days, the average daily allotment of funds has been $21,059,420.

Large amounts have been and are being granted for the installation, extension, repair and replacement of sewerage facilities, of water works and of water systems. These are regarded as only the beginning, as private financing takes up the job of putting homes into shape to take advantage of these sanitary facilities, in many cases for the first time.

This correspondent checked over appropriations for 675 cities, scattered in 46 of the 48 states. Many millions have been provided for public buildings, private buildings, for sewerage and for water works and systems in those cities. In most cases, the federal allotment is the small part of the appropriation, as 70 per cent of the money must be put up by the local authorities. Low cost housing projects were found in sufficient number and size to justify the statement that a serious effort has finally been started to clear out slums, to improve blighted areas and to increase the standards of living among many Americans.

Our Industry in Front Rank

WITH the products of our industry ranking first in home comfort and convenience; ranking as vital necessities in maintaining healthy living conditions; ranking because of improvements in the past few years, as one of the principal means of reducing operating costs, the effect of these tremendous governmental expenditures will be powerfully felt throughout every branch of the great plumbing and heating industry.

Fig. 1—The spirit of Christmas is put in the above display. Note the water heater with a big red ribbon and bow, and tag. Smaller items are arranged under the tree

Fig. 2—Here is a humidifier which is featured as a special Christmas item. An Xmas box, tissue paper and holly make it especially attractive

Merchandise for Christmas

Suggestions for increasing sales of special items for holiday season

LOGICALLY, Christmas with its atmosphere of warmth and good cheer, is a season when heating and heating products should be to the fore, and it should not be without its benefits for plumbing. Other industries have their products associated in the public mind with a particular season or day, but there has never been any such association for the heating and plumbing industry.

Flowers are associated with Mother's Day. Neckties are associated with Father's Day. For the children, toys are associated with Christmas but there is no link between the day and any type of gifts for the older members of the family. Heating and plumbing items have been linked with it less than have the products of other industries, but logically home conveniences, especially

Fig. 3—"Chromium Faucets—A little item to dress up the bathroom" explains what this gift will mean to the woman who takes a pride in her home

heating products, appear to be appropriate gifts for the season.

The entire holiday season from Thanksgiving to New Years is a home season. It is the one time of the year when activities center around the home. Warmth in the home has a special significance, and the fireplace, the early form of home heating, has become a symbol of Christmas as universal, if not more so, than the Christmas tree.

The holiday season might well provide a period of special activity for the plumbing and heating dealer, just as Mother's Day provides a period of special activity for the flower retailer and Father's Day provides a period of special activity for the haberdasher.

Taking the old tradition about the fireplace and from that centering his campaign around home heating, the plumbing and heating retailer can create an interest not only in heating products but in plumbing products too, for Christmas is a home season. The interest created in home heating can be extended to include a general interest in home conveniences including plumbing.

In addition to providing a time when heating and plumbing products can be sold as gifts, the holiday season can well be a time when people can be made to think about heating and about their home conveniences generally, when the things that they need for proper heating can be brought to their attention and when equipment for the house including plumbing equipment can be placed before them, while they are centering their lives about their homes.

Both plumbing and heating products make suitable Christmas gifts when they are presented in terms of the convenience that they offer to a particular member of the household. This is particularly true of new products that offer special conveniences which cannot be obtained with the older types of equipment.

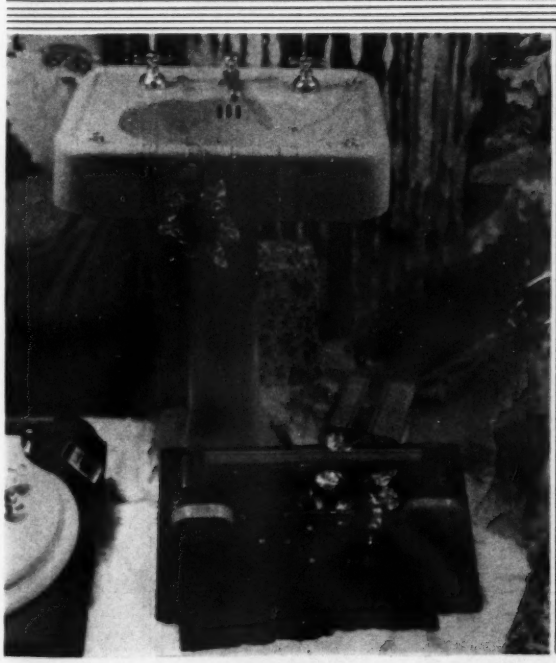


Fig. 4—Small as well as large items are featured in the Christmas window display illustrated at the left. This particular set-up attracted customers to Michael Mele's store, in Chicago, last winter

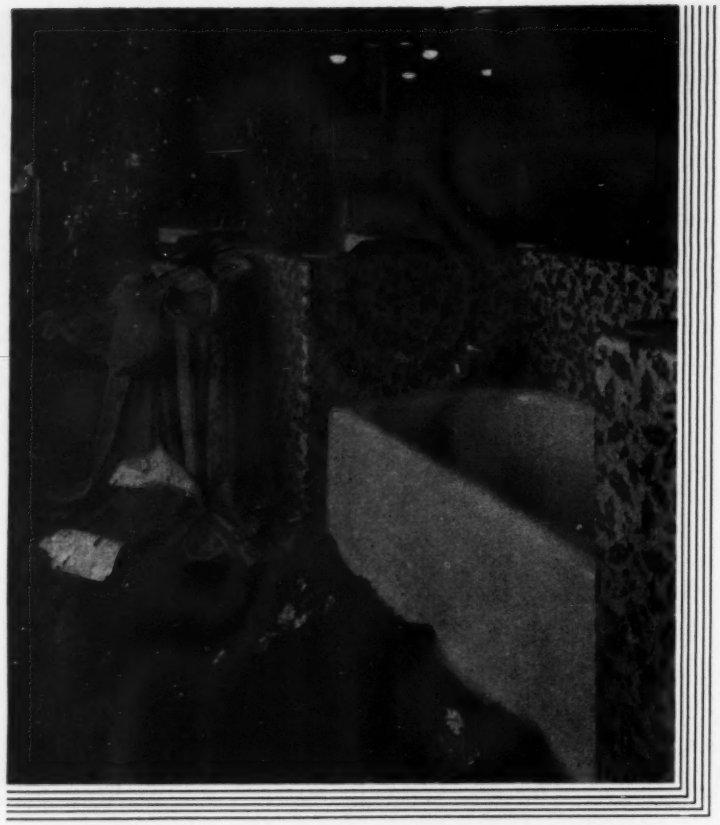


Fig. 5—The illustration at the left shows how a bath tub may be featured as the center of a display. Shower curtains are draped at the left of the view

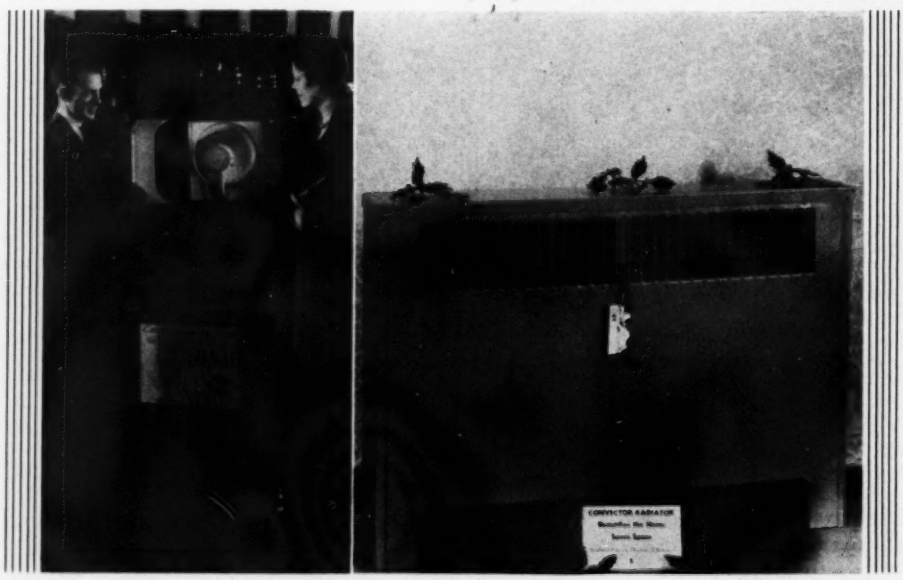
Fig. 6—At the lower left is an electric ventilating unit for kitchens. As a Christmas gift, this should appeal to any housewife

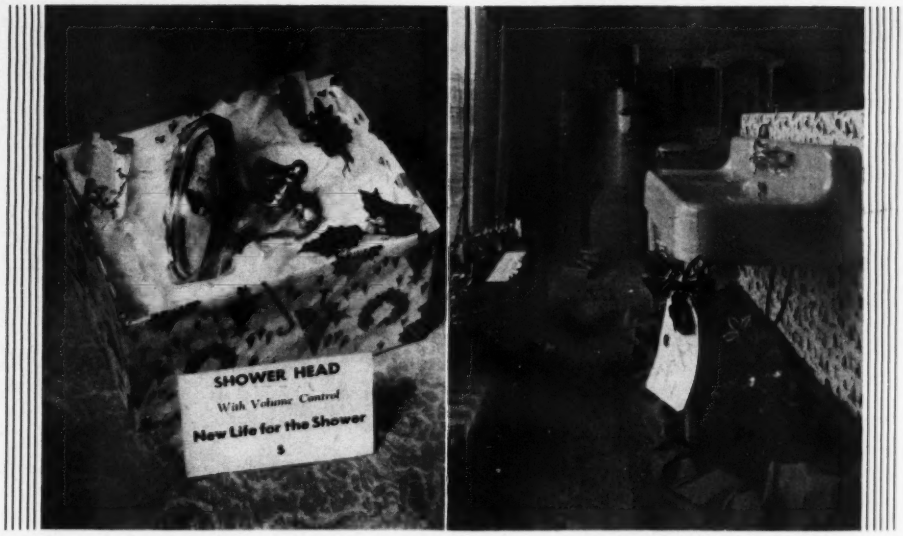
Fig. 7—At the lower right, a little holly and a Christmas card provides the seasonal background for a covered radiator. The price tag reads, "Beautifies the home—saves space — without loss of heating efficiency"

Stress placed on the value that these products have for the home-owner or housewife, instead of a mere presentation of the products themselves, will probably do as much as any other one thing to place plumbing and heating products on the list of practical presents that are given at Christmas time.

A set of the new type vacuum valves for radiators might not at first appear to be a Christmas gift, for instance, but the saving in fuel that the valves make possible would be a real present for the head of the house who pays the bills. Lavatory faucets might appear to be a staple item that no one would regard as a Christmas present. Chromium plated lavatory faucets to dress up the bathroom, however, would be a real present for the housewife who takes a pride in her home and may have an old, nicked pair of faucets that she has not felt justified in replacing out of her regular budget.

In both his displays and any direct-mail literature that he may send out the contractor can make a sound Christmas appeal by calling attention to the convenience that a particular product offers. A line on price tags such as the line "A Little Item To Dress Up the Bathroom" on a tag for lavatory faucets, will serve to do this in displays.





For the best results, the particular products to be promoted at Christmas time should, of course, be selected according to the character of the individual contractor's clientele and the type of community that he serves. Here are a few of the many products that can be sold as Christmas presents if they are presented in terms of the convenience that they offer.

Fig. 2 shows a humidifier attachment for radiators. It is a new product that can be attached to radiators on either steam or hot water systems, this humidifier offers the contractor an opportunity to gain profits from the current interest in humidification as a phase of air conditioning. One or two units are sufficient to humidify the lived-in rooms of the house.

Another item is the new type of vacuum valves. These valves are especially designed to hold heat in radiators and to save fuel. They can be used to convert a one pipe steam system into a vacuum system.

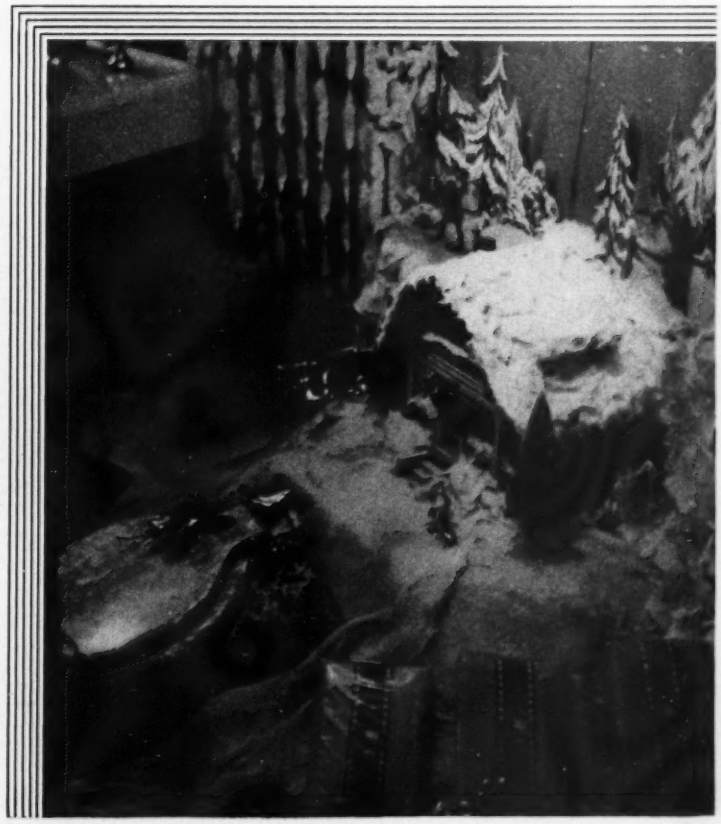
As for larger gifts, Fig. 7 shows a new type radiator. These units offer the contractor an opportunity to capitalize on the vogue for covered radiators.

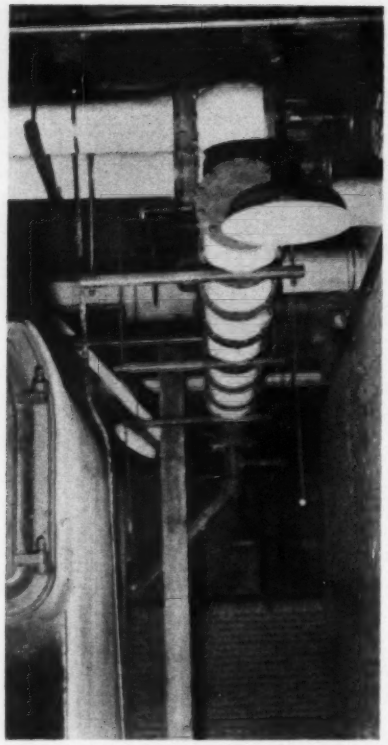
Chromium plated faucets for the lavatory such as is shown in Fig. 3, will provide a present for the housewife who takes a pride in her bathroom and wants to replace an old worn, nickled pair of faucets.

Fig. 8—Shower heads such as the one at the upper left can be sold as a replacement item to provide a gift for almost any member of a family

Fig. 9—A kitchen sink dressed up to attract the Christmas shopper's eye is shown at the upper right

Fig. 10—The winter scene at the right provides the setting for a display of plumbing and heating goods





The illustration above shows a portion of the steam equalizer connections for a Hartford loop serving two large boilers

What Is The Hartford Loop?

By HAROLD L. ALT

THE Hartford Loop as its name implies was promulgated by the Hartford Boiler Insurance Co., as an improved method of connecting up returns on low pressure heating boilers and is sometimes termed the "Underwriters Loop." Its use is not compulsory but it possesses certain inherent features which render it particularly desirable and the basic theory should be thoroughly understood by the industry in order that the full value of this type of connection may be secured. That these principles are not thoroughly appreciated is amply evidenced by the fact of alleged "loops" being presented and installed from time to time which do not give the necessary protection and lull one into a state of security on the assumption that nothing can happen to the boiler now *because* it is equipped with a Hartford loop on the return. It is high time such loops were checked up and the fact ascertained as to whether they really are Hartford loops and comply with all of the requirements or whether they simply *appear* to be such loops and are not arranged to give the protection desired.

PURPOSE OF THE HARTFORD LOOP

The purpose of the Hartford loop is one, and only one, and that is to prevent the water being backed out of the boiler under any conceivable condition and unless it meets with this condition it is not a true loop simply because the true loop when installed in accordance with the requirements will prevent just such a contingency. Every boiler man knows how undependable a check valve in the return can prove to be especially when the return is partially filled with scale, dirt and other residue such as is liable to accumulate in the lowest portions of a heating system. A slight piece of dirt or scale lodging on the valve seat results in holding open the tongue of the check and will permit the boiler water to flow out into the return or into the adjacent boiler—if such exists—when the pressure conditions are right or if the boiler happens to be started up with the steam valve closed off. In addition to this, any break which may occur in the wet return line would result in draining the water out of the boiler if the check valve was not tightly seated. Of course another indirect advantage is secured by the elimination of the check in that no additional head of water is required in the water line at the far end of the wet return to lift the tongue of the check, this rise generally being assumed as between 3 in., and 4 in. But this

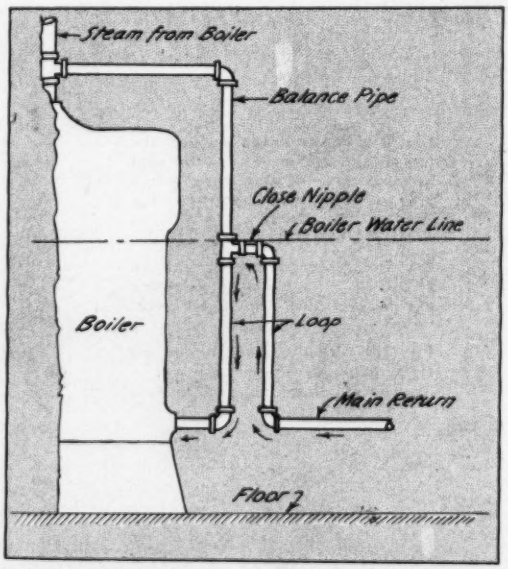


Fig. 1—Here are the essential connections for a Hartford loop when only one boiler is installed

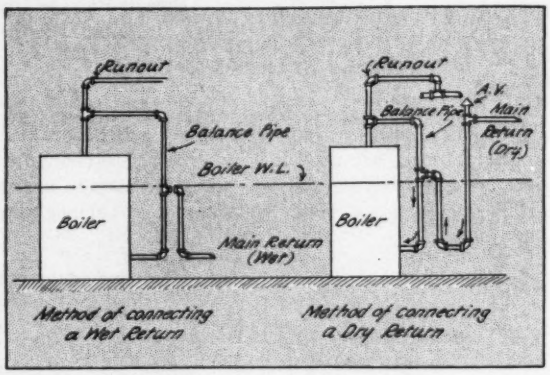


Fig. 2—Two sets of connections are shown here. One is for use with a wet return and the other, for a dry return

feature was not the one which caused the development of the loop; it is only an incidental accompaniment to the use of the loop.

DESIGN OF THE LOOP

All that the loop consists of is an inverted U made up in the wet return line with a balance pipe connected to the top of the U from the steam runout on the boiler so as to maintain a balance of pressure on the top of the loop at all times when steam pressure is on the boiler; this is illustrated in Fig. 1. If a dry return is brought back to the boiler, it should be dropped down to the level of the boiler return inlet and should become a wet return

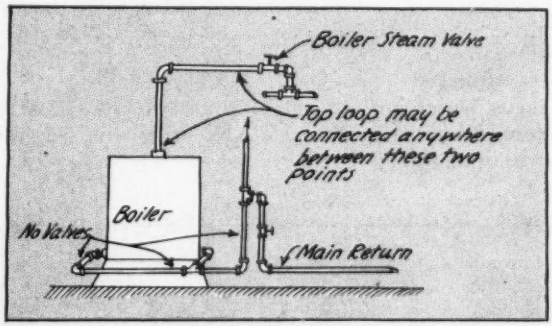


Fig. 3—The question of valves in the Hartford loop is important. This shows where they should be placed

before entering the loop; a wet return line may enter the loop at any level but it is considered more desirable to have such a return dropped to the level of the boiler return inlet before rising up into the U as illustrated in the dry and wet return connections shown in Fig. 2.

It is essential that the horizontal portion of the loop at the top should be made as short as possible—in fact a close nipple is recommended for use at this point—and the level of the top of the loop should be slightly below the normal boiler water line. Originally, the level of the top of the loop was set at the normal water line of the boiler but in certain installations trouble from water hammer developed so that now a modification of this frequently is used making the top of the loop about 2 in., below the normal water line. Some installers even increase this figure when the return line is of large size.

One of the most important factors in setting up a loop is not to connect the balance pipe so there is any valve between the balance pipe and the boiler; neither should there be any valve in the return on the boiler

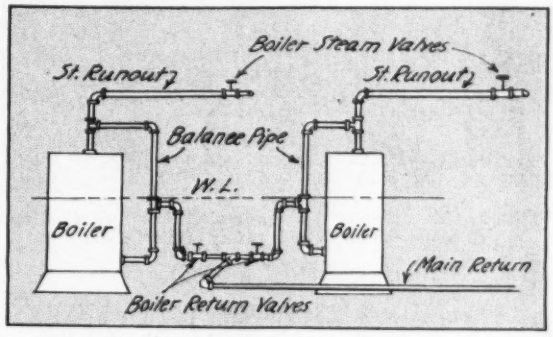


Fig. 4—Here the Hartford loop is used to cross-connect two boilers. Note how valving is arranged to cut out either boiler

side of the U, measured from the top of the U. This results in recommending the arrangement similar to that shown in Fig. 3. Another item is the necessity of using individual loops for each boiler which is occasioned by the fact that if no valves are installed between the top of the loop and the boiler on the return line, the return cannot be split and run to both boilers without introducing a pipe connection which is without valves and which really is a cross connection between the two boilers. Such a cross connection will make it impossible to shut off one boiler from the other simply because there are no valves in the return which would permit cutting off one boiler from the other. With the use of two loops the boiler and its loop may be cut off as a unit from the other boiler and its loop by closing off the valve on the inlet to the loop as illustrated in Fig. 4.

CONNECTION OF DRIPS TO LOOPS

In connecting drips, say from the boiler header, to the loop some question may arise as to where the drip should be connected in and this may easily be answered

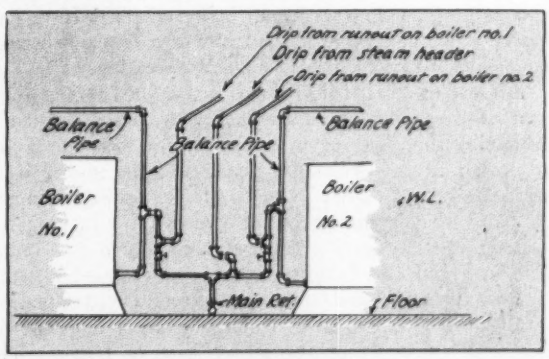


Fig. 5—Method of connecting drips to loops, in relation to the valving

by keeping in mind that any drip which is taken off the runout, on the boiler side of the main runout valve, should be connected into the loop on the boiler side of

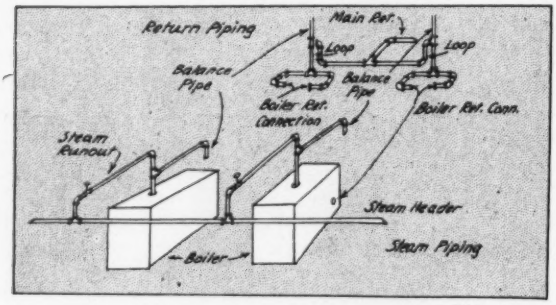


Fig. 6—This diagram shows a typical installation of two boilers when there is plenty of head room

the return valve while any drip taken off the boiler header or from steam mains and on the building side of the boiler runout valves should be connected into the loop on the house side of the boiler return valves. This is indicated in Fig. 5. The reason for this is that any drip taken from the boiler runout on the boiler side of the boiler steam valve will be closed off when the boiler is shut down and should be cut off from the return system by the closing of the boiler return valve on the loop so as to prevent water being forced up into the boiler from the return when there is no pressure in the boiler to prevent. On the other hand, the drip on the

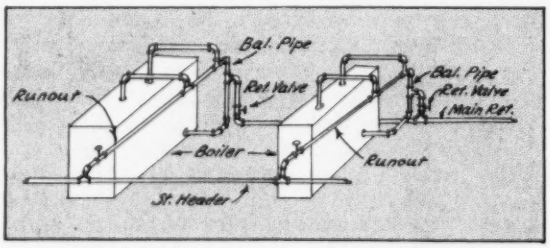


Fig. 7—When there is restricted head room, these connections are particularly advantageous for piping two boilers

building side of the boiler steam valves will be in operation as long as there is steam being supplied from any source and must be connected into the return where it can go back to whichever boiler is operating.

The size of the balance pipe is determined by the grate area of the boiler and may have been based originally on having this pipe serve as a relief for steam pressure generated in the boiler if, perchance, the steam were accidentally left closed when the boiler was started up. Actually there seems to be little reason for making the balance pipe any larger than the main return pipe but it will be found out that in the cases of pumped returns, such as from vacuum pumps and receiver-return-pumps, the balance pipe will be considerably larger than the return line especially on the larger sizes of boilers. The schedule for sizing this pipe is as follows:

Grate Area Sq. Ft.	Size of Balance Pipe In. Nom. Diam.
Up to 4	1½
4 to 15	2½
Over 15	4

In the case of oil or gas fired boilers or where stokers or special grates are used it is permissible to change the grate areas into square feet of rating and then to use the boiler ratings as a guide for sizing the balance pipe.

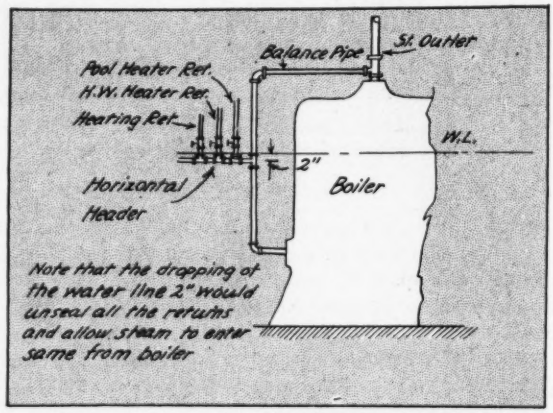


Fig. 8—This is not a true loop and indicates how steam can enter the return piping when the water line drops

Probably a fair amount to use under such conditions would be ratings as follows:

Boiler Rating Sq. ft.	Size of Balance Pipe In. Nom. Diam.
Up to 900	1½
900 to 6,400	2½
Over 6,400	4

These figures are not official but seem to be close to representing the equivalent of coal firing with the grate areas specified.

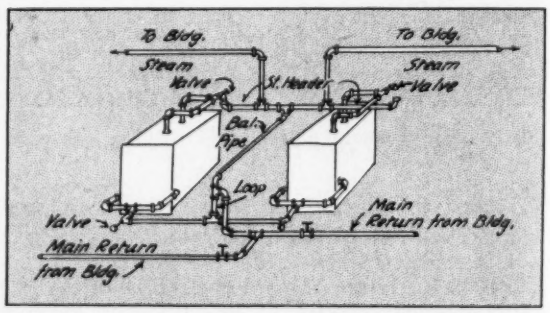
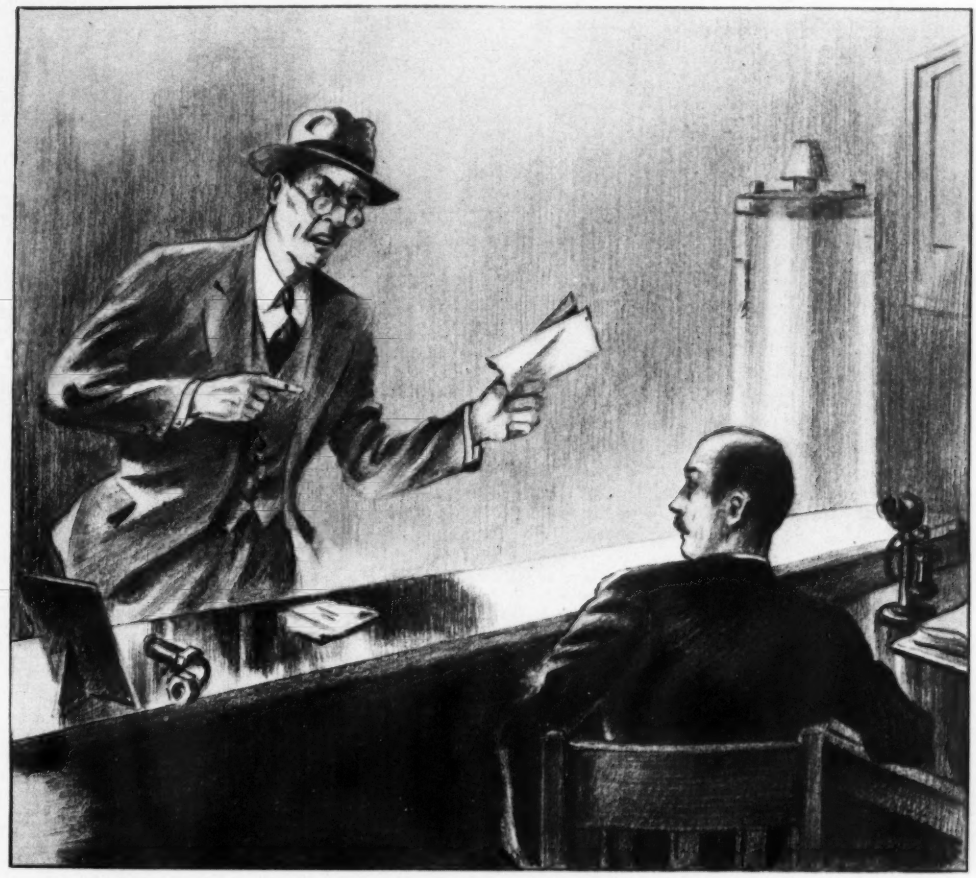


Fig. 9—Using one loop for two boilers is not permissible for several reasons, as described in this article

In constructing the loop the pipe size employed should be the full size of the return line whatever it may be and no modification on this pipe size is necessary or desired. In the case of two or more boilers where one is not a spare it is permissible to reduce the size of the

(Continued on page 26)

With Dolan & Olson



"Mr. Customer came hopping into the store. It was easy to see that he was angry. He exploded like a Fourth of July firecracker"

One Day's Experiences with Two Customers—As Unlike as Day and Night.

WE ARE frequently reminded of the editor's advice to the cub reporter to go out and get the news, and then he elaborated by giving his version of exactly what constituted news: "If a dog bites a man, that is to be expected; but if a man bites a dog, that is news."

Of course that is out of the line of plumbing and heating work, but we fellows that are in the plumbing and heating business are on the defensive most of the time, and we get so used to having either Mr. or Mrs. John Public tell us of our short-comings and our overcharges that we accept it as a part of the day's work and cannot use that oft-repeated story as an excuse for having grey hairs or bald heads.

Just last week a fellow came into the store and said that he had been trying all of the previous day to remove a stoppage in the sink waste pipe, but without success. He was of the opinion that it was all due to faulty installation, although the job had been working for the past twenty years with little or no trouble.

He wanted to know how that stoppage could be removed and we suggested that he run a wire down through the pipe, but he claimed that he had tried to do so, but without success as there were some turns in the pipe and he could not get the rod beyond the first turn. He also added that he had used several cans of lye.

After talking at considerable length he went back home to try again. Several hours later he came back and wanted to get a plumber right away. He had failed to dislodge the stoppage, and the women were getting tired of having him muss up the kitchen without getting any relief.

So we booked the order, and soon afterwards dispatched one of the service men to the job. In due course of time he returned, turned in his charge slip and went out on another service call. A few days later we ren-

dered a bill and shortly after that Mr. Customer came hopping into the store.

It was easy to see that he was angry. He exploded like a Fourth of July firecracker. Wanted to know why we were trying to get the best of him? Said that our plumber had removed a stoppage in the sink waste pipe in the first floor several years previous and had only charged one dollar for it, and now we had the nerve to charge him two dollars and a quarter for doing the same kind of job at the second floor sink.

She added the words that caused the sun to shine: "You keep the change. That job was worth every cent of the $10"

He had the old receipted bill with him. We showed him the plumber's original charge slips which showed that the charges were for labor only– no material had been used—and that the first job had only taken a little over a half-hour, while the second one had taken an hour and a half.

HE THOUGHT IT A HALF-HOUR JOB

He agreed that the plumber had been there the full hour and a half and had been working all the while, but just the same he felt that he should have done the job in a half-hour, although he had spent the greater part of two days and one night on the job without getting anywhere at all.

Well, arguing with a fellow like that is just like talking to the west wind on a December day. We did our best to present our side of the case, but we got exactly nowhere except that he did pay the bill, grabbed the receipt, stuffed it in his pocket and stalked out with the parting shot that the next time he needed a plumber, he would get an honest one, if he could find one.

And that made it look as if the day would be entirely ruined, but the cloud of gloom was lifted when another customer came in, opened her hand-bag, pulled out one of our bills, laid it on the counter, opened her pocketbook, extracted a ten-dollar bill and placed it on top of the invoice.

I receipted the bill and started to make change—the bill was for $7.65—when she added the words that caused the sun to shine: "You keep the change. That job was worth every cent of the $10.00."

I assured her that it was not necessary to pay more than the amount of the bill, but she insisted that she was so well satisfied that she would not feel right unless she had her way about the payment.

She won the argument.

The story of the job at her house is of interest. I was at home on a particularly hot Saturday evening when the phone bell rang. This lady was at the other end of wire. She stated that there was a water leak in the basement close to the meter, so I hopped in the car and rolled around to her house.

Walked into the basement and found this lady, her tenants and their son and daughter. With the exception of the owner, all of them were barefooted and all of them had been busy scooping up water. A wet line around the wall showed that there had been several feet of water in the basement. Incidentally they had been fattening a few chickens, but the coop was above the high water line.

It looked like the family had been away all day and had gotten home in the early evening. The son had started down-stairs to feed the chickens and had stepped into water before he got to the bottom of the stairs. Fortunately he was one of Uncle Sam's sailors who was home on a furlough, so water was one thing that he knew something about. He also knew something about plumbing. Just enough so that he had removed his shoes, socks and pants, waded over to the meter hole and discovered the source of the leak. He also found that the shut-off valve had outlived its usefulness, but he had managed to shut off the water.

Then he had called all hands, and armed with pails and pans they had scooped up the water and poured it into the laundry tray. They were just getting the last of the water out of the meter hole when I arrived. We found that the meter had cracked, so we disconnected it, put in a nipple of proper length and turned on the water again, only to find that the ground key stop cock on the street side of the meter was also leaking, but a little pounding with the hammer stopped that.

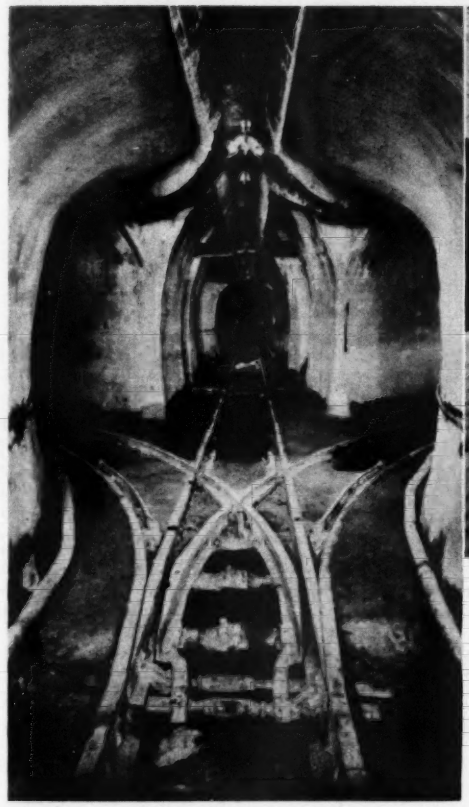
MORE THAN SATISFIED WITH BOTH JOB AND PRICE

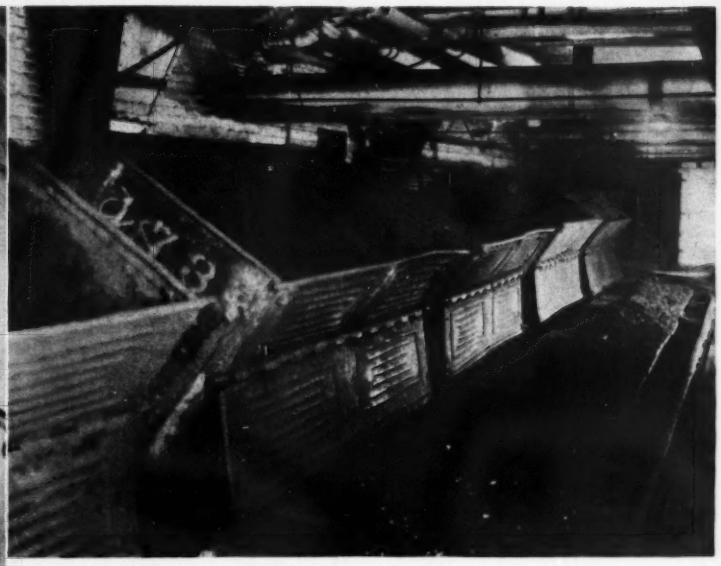
That left them sitting pretty for the week end, but on Monday we found that the meter had outlived its usefulness and would have to be replaced. Fortunately we had just taken out a meter of this size and replaced it with a larger one, and the owner had given us a bill of sale and instructions to sell it for anything that we could get.

We made out the necessary transfer papers at the water office, turned off the water at the curb, installed a new shut-off valve in place of the old one, set the meter in place, and made a satisfied customer even more satisfied with the job and with the price.

So taking the good with the bad we manage to smile through life, and sometimes we even get a good laugh out of the game.

(Continued on page 34)





Work to Start Soon

on Chicago's

Ten Million Dollar Heating Plant

THE Chicago Tunnel Company, which has 62 miles of tunnels of size 6 ft. x 7½ ft. in the loop and adjacent districts in Chicago, contemplates the erection of a central district heating plant which initially would supply the requirements for heating and process purposes for every building in the district bounded by the lake, the river, and south to Twelfth Street. In this district there are 1,200,000,000 cubic ft. of building space and a potential market for 9,000,000 M pounds of steam annually. This steam would be generated in a central plant and distributed through pipes laid in the tunnels or beneath the tunnel floor. There would be no interference with the transportation of freight as it is now carried on.

As the tunnels already exist the cost of installation of steam pipes would be lower than in cities which have central steam systems. The first unit of the steam generating plant would comprise four boilers of 3,000 h. p. each; this would be increased to six or eight boilers, and the necessary auxiliary equipment as the business is developed. The location of the boiler plant has not been definitely determined but it will probably be located near one of the coal carrying railroads, and will be convenient for the efficient distribution of steam. It is planned to use Illinois coal. The project contains the promise of another generating plant and the development of other districts adjacent to the tunnels which extend as far north as Erie Street and as far west as Halsted Street.

Fig 1—At the upper left is a view of the Chicago tunnel system. This shows a four-way intersection. There are 128 such intersections

Fig. 2—The view at the upper right shows how tunnel cars unload coal in the basements of the buildings they serve under the present arrangements. With a central steam system, this would be eliminated

WORK CAN START IMMEDIATELY

Actual work can be started immediately after the loan is authorized. Engineers estimate that 3,000 men would be given employment in Chicago within sixty days for a period of one year, and at least 3,000 more would be engaged in the mills and factories which would supply the needed materials. The time necessary to complete the work would be a year.

The project has been in contemplation for several years, but was deferred until a proper franchise was obtained in 1932. Owing to present economic conditions, and the new Security Act, it is not possible at this time to raise private capital for this project. Therefore, the company made application to the Reconstruc-

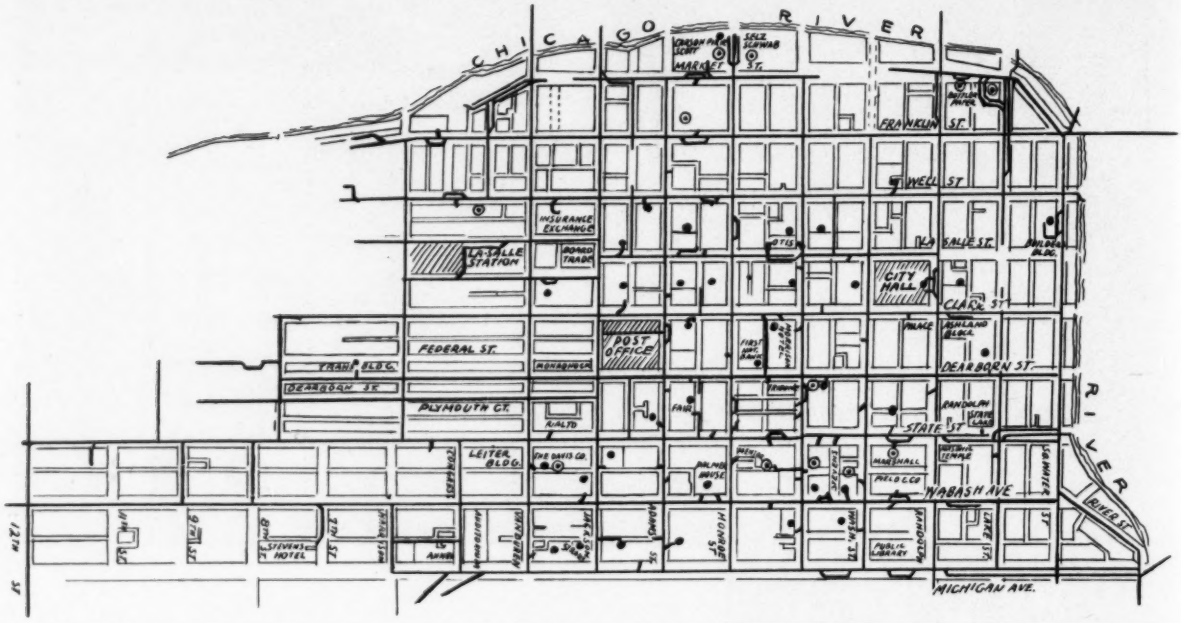


Fig. 3—This is a map of the Chicago loop section and adjacent areas. The heavy lines indicate the locations of the tunnels. Outlets are represented by dots. This gives some idea as to the possible extent of the proposed system

tion Finance Corporation and was granted a loan of $4,625,000 for building the distribution system. The entire project will cost about $10,000,000, and application for the additional amount required is pending before the Administration of Public Works. There are also possibilities of partial private financing. It is expected that work can be started by January 1, 1934.

It has been reported that the Chicago Tunnel Company has purchased from the Illinois Central Railroad a site at the northwest corner of the intersection of Randolph street and boulevard approach to the contemplated bridge connecting Lake Shore Drive with Grant Park. The property extends north to the river's edge.

From the plant on this site, steam under a 400 lb. pressure, would be forced through 24-in. pipes placed along the sixty-two miles of underground passageways, forty feet below street level, which are owned and operated by the Chicago Tunnel Company.

Some idea of the possibilities of this gigantic heating program is gained when it is known that the building volume accessible to the tunnels totals one billion 300 million cubic feet. The steam, forced through the subways under high pressure, would be piped into buildings through reducing valves.

As the contemplated heating plant will occupy what eventually will become one of Chicago's outstanding boulevard corners, fronting on the new link drive and overlooking both Grant Park and the river, tentative plans for an imposing structure architecturally are being considered.

Its location assures easy access to both rail and water transportation. This is necessary as during an average winter day approximately thirty cars of coal [about forty tons to a car] or a total of 1,200 tons of coal daily would be burned in the big plant making steam.

The supplying of steam will cut off much of the present traffic of the tunnel company in carrying coal and taking out ashes from skyscrapers.

Hartford Loop—

(Continued from page 22)

loop to the size of the return running to the boiler on which the loop is located. Usually this reduction is so small that it is neglected; of course when the case is that of having a spare boiler with the other carrying the full load the return should be run undiminished in size to each boiler.

Outside of the loop itself there is no special piping required on either the steam or return end. A typical installation for two boilers with ample head room is given in Fig. 6 and another layout for restricted headroom conditions is given in Fig. 7.

COMMON ERRORS IN MAKING LOOPS

A prominent contractor recently submitted a sketch of a proposed loop which he intended to install on two large size steel heating boilers and which appeared as shown in Fig. 8; this was turned down on the ground that it was not a true loop and that the steam would enter the return line via the balance pipe and header shown. Another contractor proposed to use one loop for two boilers as given in Fig. 9 but this also is not permissible on several grounds; in the first place if the return valves are open water can pass from one boiler to the other to an unlimited degree; in the second place the balance pipe is taken off beyond the boiler stop valve which is directly contrary to the requirements and, third, there is only one loop for two boilers.

The NRA, in promoting better business, will insure the use of better plumbing. Installation codes will assume an increasing importance. This describes how to

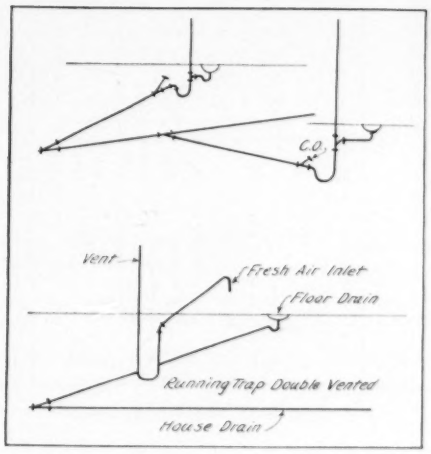


Fig. 1, at Top; Fig. 2, Bottom

Analyze Plumbing Codes with Drawings

By Wm. W. Stevens

A large number of the plumbing codes which are in force throughout the country are in the form of printed instructions or regulations only. Drawings of the provisions specified are not included. This is one reason for many of the inconsistencies which appear both in codes and in installations. When regulations are analyzed sufficiently to show them in the form of drawings, points which are not in agreement soon become in evidence. Such a code was called to our attention a few days ago. It concerns a rather large city in the South. Only two sections or paragraphs of the entire work are considered here. Even this small portion required a minimum of thirteen sketches to cover the points involved. There is another advantage in making drawings. Very often a sentence may be so worded that it has two meanings, depending upon the experience or interpretation of the one following it. When a code is sketched as well as written, there can be no misunderstanding.

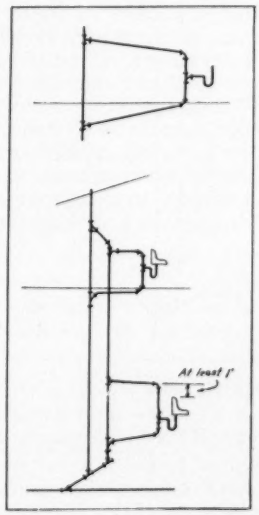


Fig. 3, Top; Fig. 4 is at the Bottom

While this article is in regard to a local code which covers a set of local conditions, the method of making the interpretation and the reasons for it may be considered universal. The first section has to do with floor drains while the second paragraph covers venting regulations. Altogether, the sections read as follows:

"Floor drains when connected to house drain must be trapped and vented near inlet like a fixture. When it is not practicable to connect the vent near the inlet, a running trap may be used at a convenient point along the line vented on the sewer side, with an air inlet on the house side. The latter need not be extended to the roof but may be ended outside of the building away from any opening. This does not eliminate traps at inlets.

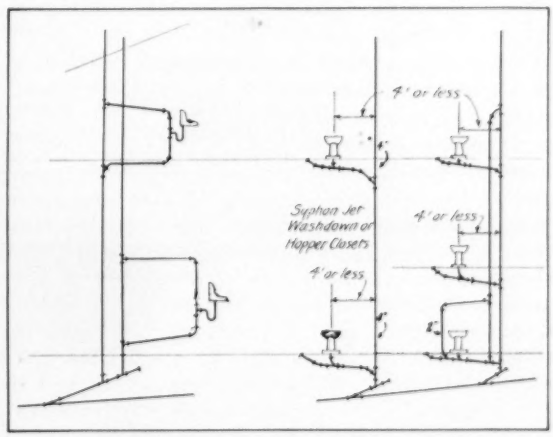


Fig. 5, Left; Fig. 6, Center; Fig. 7, Right

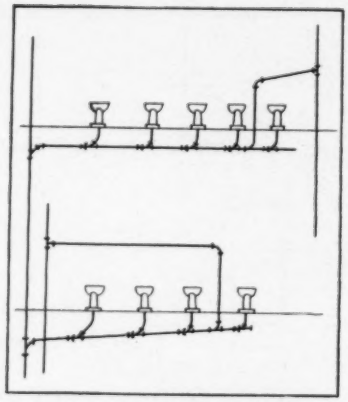


Fig. 8, Above; Fig. 9, Below

"Each and every trap shall be installed on a continuous waste and vent. Lower fixtures shall be vented at least one foot above the height of the highest fixture, or independently through the roof, with the following exceptions: Where two syphon jet washdown or hopper closets with "P" trap only are installed on a four (4) inch stack, and each is within four (4) feet of the stack, the lower closet need not be revented. Where three similar closets are installed, the lowest closet only need be revented. Where closets are to be revented, a fitting shall be inserted in the line as near the closet as practicable, and a two (2) inch revent taken from there to a point above the highest fixture. Batteries of water closets shall be vented only by the circuit or loop vent system. Where the return or circuit vent is more than sixteen feet apart, an intermediate four (4) inch vent shall be installed. Where there is a closet along a horizontal line with a closet above or beyond more than four (4) feet from the vertical stack and not over sixteen feet, it shall be revented with a two (2) inch pipe; if more than sixteen feet, the closet shall be vented by a four (4) inch stack. Where one lavatory is installed near a bath tub and both traps are directly connected to a two (2) inch stack, the drum trap for the bath tub need not be revented. The center of one and one-quarter (1¼) and one and one-half (1½) inch traps shall not be more than twenty-four (24) inches from the stack; and of two (2) inch traps, thirty (30) inches from the stack, unless revented.

Where two lavatories or two sinks, or two bath tubs with not more than 1½ in. traps one over the other are installed on a two-inch stack, the lower fixtures need not be revented.

The first provision of the first section which states "Floor drains when connected to house drain must be trapped and vented near inlet like a fixture," is shown in Fig. 1.

The second provision states: When it is not practicable to connect the vent near the inlet, a running trap may be used at a convenient point along the line vented on the sewer side, with an air inlet on the house side. The latter need not be extended to the roof but may be ended outside of the building away from any opening. This does not eliminate traps at inlets." This is shown in Fig. 2. Note that the sewer side of the running trap is vented through the roof while the drain side of it is served with a fresh air inlet to the nearest convenient point outside and away from any openings such as windows or doors.

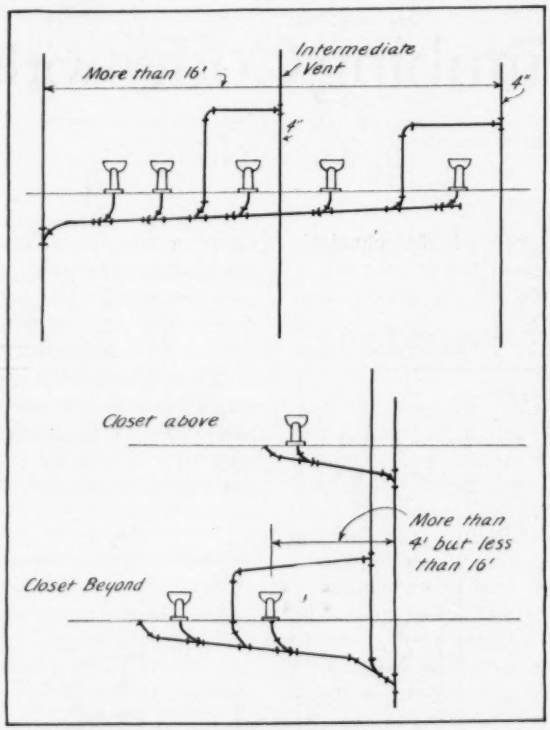


Fig. 10, Above; Fig. 11, Below

As for the section on venting, the first provision states that, "Each and every trap shall be installed on a continuous waste and vent." Fig. 3 shows a trap with such a connection. Provision number 2 states: "Lower fixtures shall be vented at least one foot above the height of the highest fixture." This is explained in Fig. 4. The third provision of this section states: ". . . or independently through the roof." Fig. 5 shows this. The fourth provision states: ". . . with the following exceptions: Where two syphon jet washdown or hopper closets with 'P' trap only are installed on a four (4) inch stack, and each is within four (4) ft. of the stack, the lower closet need not be revented." The connections in Fig. 6 show this. Fig.

(Continued on page 34)

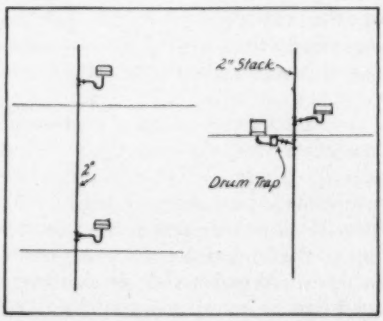


Fig. 12 Fig. 13

Birmingham Secures Ordinance Made to

Curb Installations by Unlicensed Men

A NEW ordinance, regarded as an effective means of improving plumbing and heating conditions in Birmingham, Ala., has just gone into effect through the enterprise of the master plumbers of that city. City Plumbing Inspector David Stanton started enforcing on July 1 an ordinance regulating the sale, installation and removal of plumbing and heating materials in Birmingham. The ordinance makes it unlawful to sell, install or remove plumbing and heating materials in Birmingham unless a sticker carrying the signature of the plumbing inspector and a serial number has been affixed to each piece.

Weekly reports of all materials sold and installed or removed are required from all plumbers and supply houses. Records of the materials will be kept at the plumbing inspector's office. The ordinance was adopted by the city commission at the request of master plumbers to aid in stopping the sale of unsanitary fixtures, to curb bootleggers and the installation of plumbing and heating by unlicensed plumbers and steamfitters.

A typical inquiry is outlined in the following letter we received recently:

"We are interested in having presented to the board of aldermen of the City of St. Louis an ordinance having for its objective the licensing of all plumbing fixtures, in order that the unlicensed installation of such fixtures may be forestalled. This would contemplate the registration of every fixture moving out of the warehouse of every jobber, showing the name of the purchaser and the destination of the material when it is purchased."

In answer, we sent a copy of the Birminghan ordinance and this is the reply:

"This ordinance appears to have unusual merit, but will, of course, have to be studied closely to determine its adaptability to our local needs.

"It is our intention to seek the cooperation of all concerned in the City of St. Louis towards having some such legislation passed, as it appears to be the only way to halt the flow of plumbing materials into the hands of persons not qualified to make such installations."

Joseph W. Pate, president of the Alabama State Association of Master Plumbers, and a director under President Kleine of the National Association of Master Plumbers, states that this new law was endorsed by the Real Estate Exchange, the Junior Chamber of Commerce, the Wholesalers of Plumbing and Heating Materials and the Master Plumbers Association. Mr. Stanton, the inspector charged with enforcing the law, has been in that office for 33 years and enjoys the confidence of the master plumbers.

The law will be enforced, according to its supporters. Reports will be made of cases demanding investigation, even the Real Estate Exchange having arranged to get reports and to interest itself in seeing that these cases are followed up.

Mr. Pate points out that credit should go to Charles Mandy of the Mandy Plumbing Co., as chairman of the legislative committee which first proposed this plan.

The new ordinance follows in full:

An Ordinance to Further Regulate the Sale, Exchange, Removal and Installation of Certain Plumbing and Heating Fixtures

BE IT ORDAINED by the Commission of the City of Birmingham as follows:

Section 1. The word "fixture," as used in this ordinance, shall mean and include bath tubs, lavatories, commodes, flush tanks, kitchen sinks, hot water tanks, water heaters, furnaces, boilers, radiators and/or arcolas. The word "person," as used in this ordinance, shall mean any person, firm, association or corporation.

Section 2. It shall be unlawful for any person to sell, exchange, keep for sale, or offer for sale, within the City of Birmingham, or the police jurisdiction thereof any fixture as hereinabove defined, whether new or second-hand, unless the same has securely attached thereto a label or sticker containing thereon the name "City of Birmingham," a serial number and the signature of the Plumbing Inspector of the City of Birmingham, or a facsimile of such signature engraved thereon.

Section 3. It shall be unlawful for any person to detach and remove any of said fixtures from any building in which the same is installed or to install any of said fixtures, unless such fixtures have securely attached thereto a label or sticker as described in Section 2 hereof.

Section 4. Any person desiring to secure the labels hereinabove described shall make written application to the Plumbing Inspector of the City of Birmingham upon blanks to be furnished by the City of Birmingham, which application shall show, (a) the name and address of the

(Continued on page 34)

Questions AND Answers

1—

To the Editor:

In Fig. 1, find sketch of a domestic water heating system which fails to heat water continuously.

The indirect water heater heats for a day. Then it quits. The pipe or coil is not blocked, but by opening the top circulating connection on the water heater and by releasing it, water again will heat for about a day. Why should this seem to air lock at this point? The top pipe gets so hot you can't put your hand on it, but circulates only for a short time.

Pennsylvania. J. R. P.

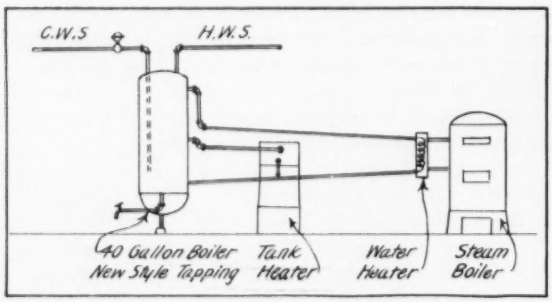


Fig. 1

To the Reader:

From your sketch showing the way you have connected an indirect heater to a range boiler, there is nothing to indicate why the tank should become air bound. The normal draw-off of the heated water should

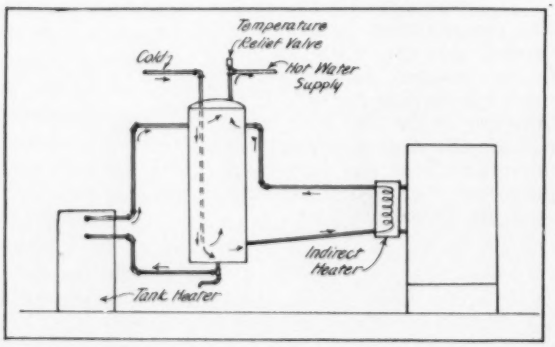


Fig. 2

release with it all of the air it accumulates as a result of heating the water.

You show in your sketch that the piping causing the difficulty was installed either on a level or was pitched up to the range boiler connection. Accordingly, it is

1. *Flow pipe between indirect heater and storage tank becomes air bound. Circulation resumes again for short time when air is released. What could have caused air pocket?*

2. *Reader is installing plumbing work in a new residence and wants to know how to insulate the piping so that noise from water flow will not be heard.*

3. *Information on a simple method of determining the hot water requirements for average residences is requested.*

impossible for us to figure out any reason for the piping to become air bound. As you know, air is lighter than water and if it has an even chance, it will rise to the top point in the system and will be drawn off through the faucets. Accordingly, we believe that the conditions indicated by the sketch marked Fig. 3, were the cause of this difficulty. Undoubtedly you used ¾-inch pipe for the connection between the indirect heater

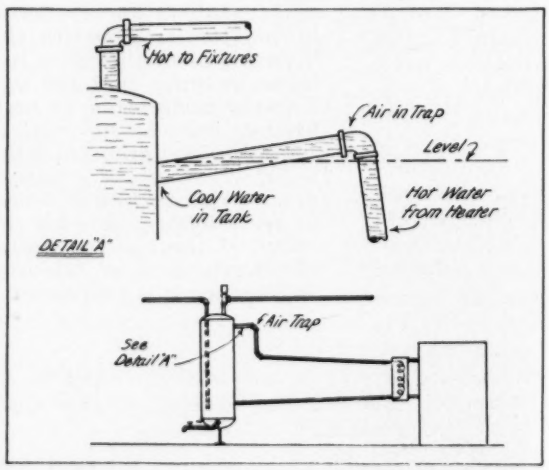


Fig. 3

and the range boiler. This means that the horizontal run into the range boiler only needed to be about ¾ of an inch out of line to cause the difficulty. This small amount might have passed unnoticed.

As for your summer tank heater, we expect that you will experience difficulty with it because the connection to the range boiler is on a level with the top connection of the heater. In order to obtain good circulation and effective heating, it is necessary to produce a circulation head. Accordingly, the heater connection should be made at the upper side opening of the range boiler. See Fig. 2.

To the Editor:

As we said in our first letter the indirect coil stops circulating and only circulates for a while after releasing the top side coupling.

We had already made the necessary change to make the boiler heat and the coil circulate when we heard from you. This we did by changing the top circulating pipe from the side tapping to a 1-in. tee at the top head of the boiler and by plugging the opening 6 in. from the top as seen in our new sketch, Fig. 4. Now this works satisfactorily.

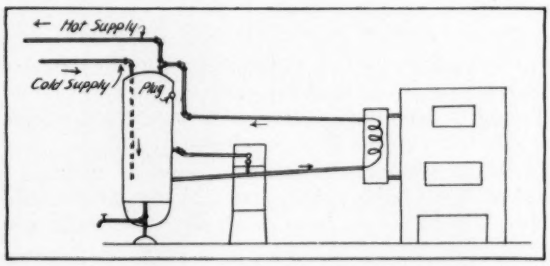


Fig. 4

We have talked to a few other plumbers and they have also experienced the same trouble with this new style tapped boiler, with indirect coil connections.

Pennsylvania. J. R. P.

2—

To the Editor:

I am about to install the plumbing work in a new residence with two bathrooms.

The toilets are to be operated by flush valves, served by a 1½-in. brass main in the basement and 1½-in. riser in the partitions. The pipe line in the basement must be secured to floor beams. The basement ceiling is not to be covered with plaster or any other materials.

With this condition, I am afraid that the pressure noise and vibration, when the toilets are flushed, will be transmitted through the building and be a serious cause for complaint by the owner.

My problem is this: What can I do to insulate the pipe hangers and pipe where they come in contact with the structure, to overcome this possible trouble?

Minneapolis, Minn. J. H. D.

To the Reader:

The following paragraph comes from one of the leading manufacturers of flush valves:

"If your subscriber properly insulates the cold water piping, uses hangers that fasten around the insulation, sees that the piping in the partitions does not come in contact with any of the building materials and is properly boxed and packed, he can make an almost soundproof installation."

3—

To the Editor:

I should like to have a simple method of determining the hot water requirements for average residences and small buildings.

Ohio. H. G. C.

To the Reader:

The quantity of hot water used by various families is an exceedingly variable amount and depends on a great variety of items among which might be mentioned,

a. Number in the family
b. How many are children
c. Laundry work done at home
d. Home cooking done
e. Number of shower baths
f. Number of bathrooms in house

Some of these items, while affecting the amount of hot water used, should receive little consideration in sizing equipment to heat water simply because they are variable and cannot be depended upon to exist at all times in the future under such conditions as a change of occupants, etc. For example, in the case of children—the children may grow up or there may be added arrivals before this occurs; one will operate to reduce the amount of how water required and the other will increase it. The fact of having floors which require mopping will add to the hot water consumption and the installation of parquet floors will reduce it. The addition of a shower bath on even one bath tub will play havoc with an installation previously perfectly satisfactory due to the shower running out a large proportion of the stored up heated water leaving nothing for the other fixtures until the tank has had time to reheat.

From this it will be seen that the subject must be viewed from two standpoints as far as residence work is concerned; first, from the size of the average family and the usual requirements and, second, from the type of installation and probable requirements of the fixtures installed or to be installed. A person on the average consumes about 100 gallons of water per day and approximately one-third of this is in the shape of hot water or 30 gallons of hot water per day. The maximum peak demand on a large installation is usually around 1/10 of the daily consumption making the peak demand per person 1/10 of 30 gallons or about 3 gallons per hour. The trouble is, that if only one person were living in a house and that person decided to take a bath, about 20 gallons of hot water would be required in a space of about 10 to 15 minutes.

This factor rather seems to establish the fact that any water system without the capacity to supply one good bath at a time is inadequate, no matter how small the occupancy. Consequently, the smallest storage that should be considered under any condition is about 30 gallons. Yet many cases are known where 18 gallon tanks are in use and give reasonable service, although baths have to be arranged at a time when other hot water demands are at the minimum. Perhaps the accompanying table will be of help in deciding what water is required for installations based somewhat on the fixtures installed—see Table I.

This table indicates that in a residence without a shower and only one bathroom to be considered the maximum hot water demand would be about 45 gallons per hour, 20 gallons being allowed for the bath, 10 gallons for the kitchen sink and 15 gallons for the wash tray. This rather checks with our experience in a two-family residence where an 85 gallon tank was found to be just about adequate though running short in some instances when baths or other heavy demands pyramided.

There were two bathrooms in this instance, and two small children which added to the load. An old rule that has been in use a long time is to allow 30 gallons storage and 10 gallons heating capacity per hour in the ordinary residence for one family and without any showers. The shower bath should add about 20 gallons storage and 5 gallons to the heating capacity making the ratio 50 gallons storage capacity and 15 heating capacity.

In apartment houses of ordinary type the usual allowance is about 30 gallons per hour as the maximum demand per apartment and a heating capacity of 10 gallons per hour per apartment; it will be seen that this allows about 3 persons average to an apartment and it must be remembered that in such cases the danger of pyramiding is largely done away with due to the number of families involved. In other words, the general demand is a more average one and, if one family uses even double its normal allowance, it is likely that some other family at that particular time may be using no hot water at all so that the peak is readily absorbed.

We would suggest that for ordinary residence work the schedule given in Table II may be used and compared with the results obtained from the use of the figures given in Table I and that the apparatus installed should come somewhere along a mean of the two amounts obtained. Even then no one can guarantee that the particular family occupying the premises may not have too much, or too little, hot water but the exercise of a little good judgment to meet the individual case will usually take care of this.

TABLE I

Maximum Hourly Demand for Hot Water Based on Fixtures and Type of Building

Fixture	Residences	Apartments	Office Bldgs.	Clubs	Hotels	Industrial
Lavatories	1	1	1	3	3	10
Showers	20	20	..	200	70	250
Baths	20	20	..	15	14	..
Kitch. sinks, etc.	10	8	..	30	30	30
Wash trays	15	10	..	30	40	..

TABLE II

Storage and Heating Capacity for Residences According to Occupancy and Baths

Description	Storage Capacity Gal.	Heating Capacity Gal. per Hr.
Ordinary residence with one bathroom and three to four occupants but no showers	30	10
Ordinary residence with two bathrooms and four to six occupants but no showers	50	17
Add for each occupant in excess of the above	10	3
Add for each shower in the above, if any	20	7
Add for second shower	10	4

For example, a simple residence with anything up to four occupants and no showers would require a 30-gallon tank and 10 gallons per hour heating capacity but a residence with two bathrooms and eight occupants with two showers would require a storage of 50 gallons for the residence plus 20 gallons for two excess occupants plus 30 gallons for the two showers or a total storage of 100 gallons and the heating capacity would be 17 gallons for the residence plus 6 gallons for the two excess occupants plus 11 gallons for the showers, or a total of 34 gallons per hour.

Questions For READERS

The following question was asked in the October issue, and the following answer is by a reader:

How would you test, in a simple way, an air conditioning system to determine if filters are removing the dust from the air satisfactorily?

In September, 1932, I installed a forced air heating system in one of our local drug stores.

Trying to keep the initial cost down, air filters were not included with the blower unit.

Early this summer, while out on a sales canvass, I called on this druggist. Fortunately, at the time I called he had several women busy dusting off the bottles and shelves.

I explained the advantages of having air filters placed in the blower unit, and how extensively they are being used to control cleanliness and human comfort and how they would bring profitable returns for the small investment required.

The facts, as I stated them, appealed to him very much. However, being the proverbial Missourian, he asked, "how do I know that these filters will remove 90 per cent of the dust and pollen from the air, as you have stated?"

I agreed to install the three filters required, and make a test. If, after the test, he was not satisfied and convinced I was right, I agreed to remove them without cost.

Before inserting the filters in the unit I placed a white cloth in the blower unit which I fastened to the side of the blower with paste as used to apply asbestos paper to furnace pipes. Then I placed the filters in the unit and arranged the control for summer cooling.

I neglected placing hemp packing around the filters for a particular reason. Several days later we examined "our test". We found the cloth perfectly white beneath the filters but the edges of the filters were outlined on the cloth where the dust passed through.

Need I say he gladly paid for the filters? He only regretted not having them much sooner.

B. G. H.

East Dubuque, Ills.

Editor's Note:

We came across an incident recently which we think is first in novel ways to test the effectiveness of air filters. A contractor had installed filters in an air conditioning system for one of his customers and shortly afterwards he went back to check the job and see if the owner was satisfied.

He found everything as it should be and asked the owner if he felt that the job was doing everything he expected of it. Upon receiving an affirmative reply, he further asked the owner how he checked on the operation of the equipment. In answer, the owner pointed to a spot of sunlight on the carpet. He said, "Well,

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PENBERTHY AUTOMATIC ELECTRIC SUMP PUMPS

Maximum Capacity 3600 Gals. per Hr.

Model K
Made in 5 Sizes
Retail Price
Size No. 1 K
$65.00

Maximum Capacity 1400 Gals. per Hr.

Model 33
Made in 1 Size only
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$39.50

Their performance is as superior as the materials from which they are made. There is a Penberthy Pump for every purpose . . . and to suit every pocketbook.

PENBERTHY INJECTOR COMPANY
Manufacturers of Quality Products Since 1886
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SELECT THE PUMP THAT SUITS THE PARTICULAR CONDITIONS . . . DON'T TRY TO SUIT THE CONDITIONS TO A PARTICULAR PUMP

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PENBERTHY AUTOMATIC CELLAR DRAINERS
(Water and Steam Operated)

MODEL S
Made in 1 Size Only
Maximum Capacity
600 gallons per hour
Retail Price . . $14.50

MODEL R
Made in 2 Sizes

	Max. Cap. gal. per hr.	Retail Price
1R	720	$25.00
2R	1240	40.00

MODEL L
Made in 3 Sizes

	Max. Cap. gal. per hr.	Retail Price
3L	1650	$ 55.00
4L	2400	80.00
5L	3200	110.00

PENBERTHY PUMPS REMOVE SEEPAGE WATER

take the air filters for instance. Before they were installed, I was able to see dust particles in a beam of sunlight but now they are entirely lacking."

How Would You Answer This Question?

In a hot water heating system, why should the return main entering the boiler be the same size as the supply main before the first branch is taken off?

Answers based upon your experience, suitable, will be paid for and published in the February issue.

Dolan & Olson—

(Continued from page 24)

That same evening, just before quitting time, one of the boys came in. He was grinning and acting like he wanted to spill something, and it came out all right.

He had been working in one of our new beer stores, installing piping for the bar sinks, an automatic gas water heater and two toilet rooms and in doing the latter work had to run a new 4-inch soil stack up through the building and out through the roof.

The ceiling was pretty high and there was very little attic space so he had borrowed a ladder from the carpenter on the job and had built up the stack until he was just below the roof, then slipped in the length that would go up through the roof, caulked it in place, and came down off the ladder only to find that the ladder was around the pipe.

And about that time everyone on the job discovered what had happened, and he had an audience of carpenters, plasterers, laborers, painters and the owner.

And, as the plumber added, was my face red when I mounted that ladder and melted out that joint again, and did they tell me how to place the ladder when I started to re-caulk that one very prominent joint???

Curb Installations—

(Continued from page 29)

applicant; (b) the number and kind of new and second-hand fixtures to be labeled; (c) that the applicant has a good title to said fixtures or a right to remove or install the same; (d) such other information as the Plumbing Inspector may require. When the Plumbing Inspector is satisfied that the applicant is entitled thereto, such labels shall be attached to such fixtures of the applicant by the Plumbing Inspector or one of his assistants. It shall be the duty of the Plumbing Inspector to keep a record of all labels affixed by him or his assistants to any such fixtures.

Section 5. It shall be the duty of every person to make a weekly written report to the Plumbing Inspector upon blanks to be furnished by the Plumbing Inspector showing all such fixtures sold by him during the next preceding week, to whom such fixtures were sold, whether such fixtures were new or second-hand, where such fixtures were to be installed, and the serial number of the label attached to such fixture. It shall be unlawful for any person to fail, neglect or refuse to file such report weekly with said Plumbing Inspector.

Section 6. It shall be unlawful for any person to purchase or receive through exchange or otherwise, within the City of Birmingham, or the police jurisdiction thereof, any of the above named fixtures, whether new or second-hand, except direct from the manufacturers thereof, unless such fixtures bear a label as hereinabove described. The possession of any detached second-hand fixture above described not bearing a label as hereinbefore prescribed shall be prima facie evidence that such possession is unlawful and a violation of this ordinance, and the burden of proof shall be upon the possessor to show that his or its possession is lawful.

Section 7. It shall be unlawful for any person to make or aid or abet in making, or knowingly have in his or its possession, any label in imitation of or similar to the labels hereinbefore authorized to be issued by the City of Birmingham.

Section 8. This ordinance shall be construed to be cumulative and shall not be held to repeal any other ordinance relating to the fixtures herein described. If any provision of this ordinance shall be held invalid the same shall not invalidate any other provision hereof which is not in and of itself invalid.

Section 9. Any person violating any provision of this ordinance shall, upon conviction, be punished within the limits of and as provided by Section 1936 of the Code of Alabama of 1923.

Analyze Codes—

(Continued from page 28)

7 illustrates the fifth provision which reads as follows: "Where three similar closets are installed, the lowest closet only need be revented." Provision number six is "Where closets are to be revented, a fitting shall be inserted in the line as near the closet as practicable, and a two (2) inch revent taken from there to a point above the highest fixture." Fig. 7 also illustrates this. The seventh and eighth provisions are, "Batteries of water closets shall be vented only by the circuit or loop vent system." Fig. 8 shows a circuit vent system and Fig. 9 illustrates a loop vent. Fig. 10 shows what is meant by the ninth provision which states, "Where the return or circuit vent is more than sixteen feet apart, an intermediate four (4) inch vent shall be installed."

As for the tenth provision, we have inserted two commas, without which the statement is meaningless to us. Our interpretation is "Where there is a closet along a horizontal line, with a closet above or beyond, more than four (4) feet from the vertical stack and not over sixteen feet, it shall be revented with a two (2) inch pipe; if more than sixteen feet, the closet shall be vented by a four (4) inch stack." Fig. 11 shows the meaning.

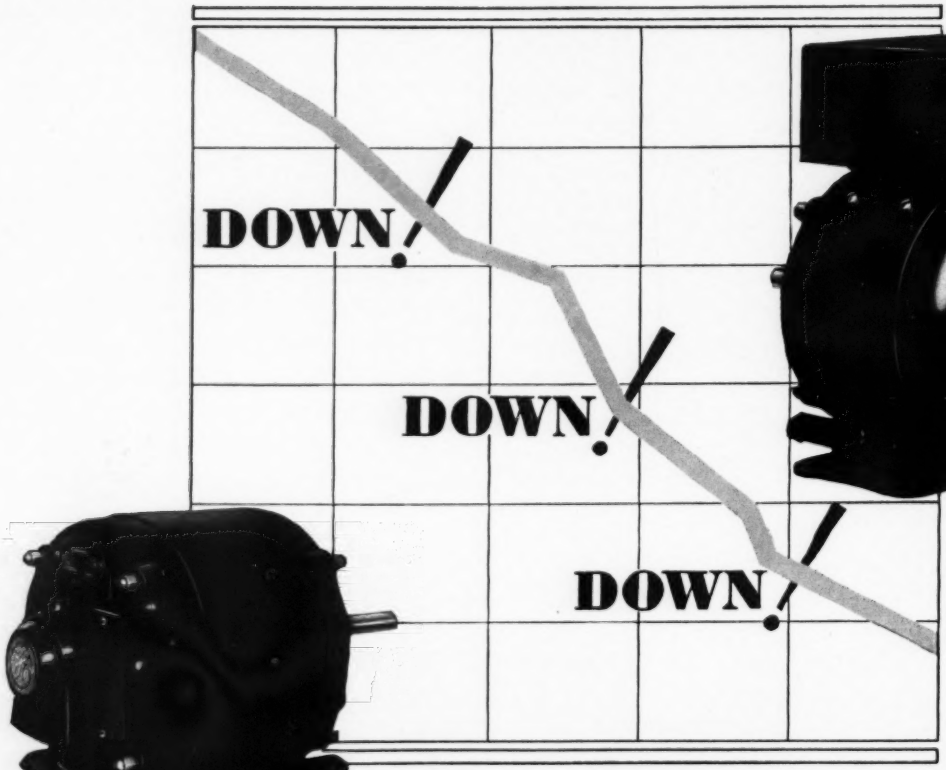
The last provision, number twelve, states "Where two lavatories or two sinks or two bath tubs with not more than 1½-inch traps, one over the other are installed on a 2-inch stack, the lower fixtures need not be revented." Our idea of this is indicated in Fig. 12. However, there seems to be a discrepancy in this statement because only two lavatories or two sinks are specified. With one of these above, there could only be one below. But, the statement says the lower *fixtures* need not be revented. Obviously this is a typographical error but it leads one to wonder if the author had in mind the use of more than two fixtures on this stack under this provision.

Automatic Heat *and* Air Conditioning Section

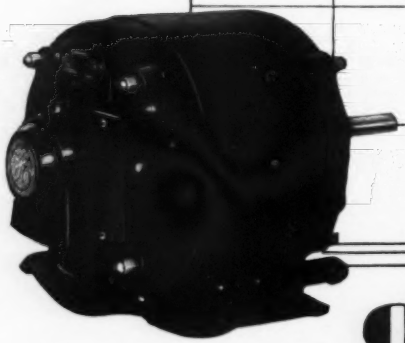
Using his home as a laboratory, here's an engineer who is finding out how to make American homes more comfortable through air conditioning.

Electricity is finding a steadily increasing use in this market. A timely article tells you some of its fundamentals.

A dealer tells of his methods in selling ten automatic heating plants every month.



THE TYPE KC motor with capacitor unit mounted. It is also available with separate capacitor unit. Look into this dependable drive



THE TYPE KH resistance split-phase motor, equally dependable and efficient. Ask about it

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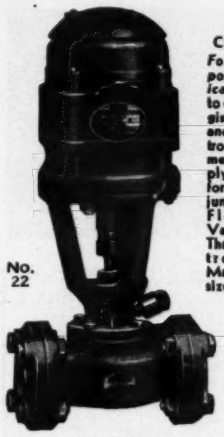
WITH a G-E motor on your oil burner, the graph of your service complaints approaches zero.

Type KC and Type KH motors have always been outstanding. Major improvements for 1933 make them even more so. These improvements include: new drip-proof end flange with built-in terminal block which simplifies connections and eliminates necessity for splicing and soldering; greatly increased bearing-oil capacity; and, in the case of the Type KC motor, a capacitor unit one-half as large as before.

Specify G-E motors. They represent one of the soundest equipment values on today's market. Investigate, also, General Electric transformers, cable, etc. Specialists in a G-E office near you will be glad to coöperate with you in solving your drive problems. General Electric Company, Dept. 6-201, Schenectady, N. Y.

210-176

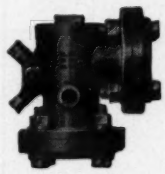
GENERAL ELECTRIC



No. 22

THRUSH WATER CIRCULATOR

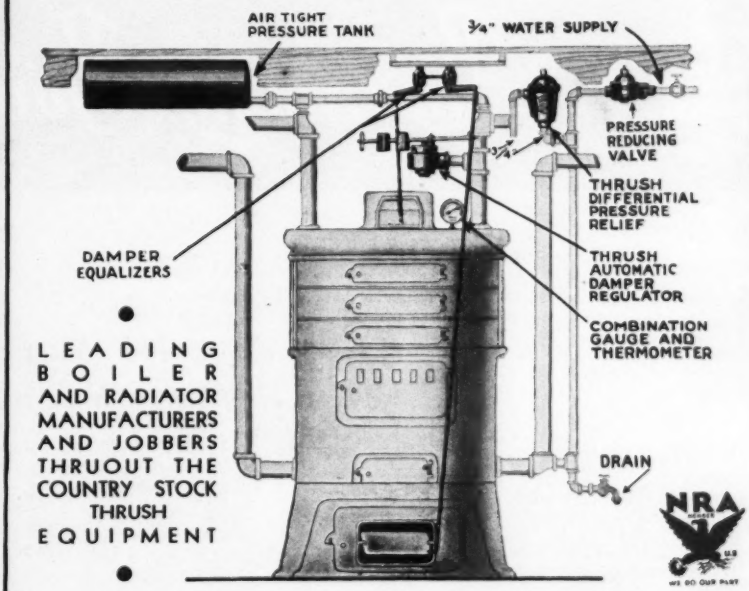
For providing positive mechanical circulation, to overcome sluggish circulation and other heating troubles, for domestic water supply systems and for use in conjunction with the Flow Control Valve in the Thrush Flow Control System. Made in three sizes.



No. 125

THRUSH FLOW CONTROL VALVE

Designed for use in conjunction with Thrush Circulator in Thrush Flow Control System to control physical distribution of heating medium. Made in 3 sizes. (Patented)



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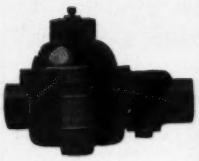
Modernization with Thrush Equipment



No. 12

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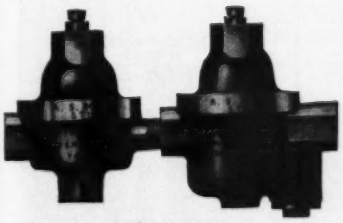
For automatic filling on large boilers. Has large waterways and will fill the system rapidly. Finely made, fully guaranteed.

No. 4

DIFFERENTIAL PRESSURE RELIEF VALVE

A safe and dependable Pressure Relief. No tight fitting guide. Large metal diaphragm actuates movement of free working valve member.



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Pressure Reducing Valve with built-in strainer and Pressure Relief Valve. A high grade automatic unit for controlling tankless jobs.

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★ MODERNIZATION of neglected heating plants is one of your biggest sources for immediate business. Learn about the Thrush line of specialties for Hot Water Heating and Domestic Water Supply and the dozens of different possibilities for the improvement of the efficiency of any type of Hot Water Heating plant, old or new. Just a few of the items are shown on this page. Get the complete Thrush price list and literature on any product which interests you—or tell us your specific problems. Thrush engineers can help you make more profit, and satisfy your customers more completely. Use the coupon.

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REDUCING VALVE

A ¼" Automatic Pressure Reducing Valve with Strainer *for use with either water or air* or other special work.

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RELIEF VALVE

A good Domestic Water Relief Valve, entirely *dependable,* at a low price.

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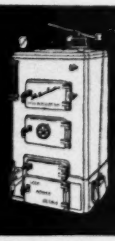
No. 70

PRESSURE REDUCING VALVE

A 1" red brass Pressure Reducing Valve. *Absolutely dependable.*

Burnham Boilers



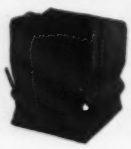
BURNHAM JACKETED IN COLOR

17 and 27 inch steel jacket and 4-ply air-cell asbestos insulation. Enameled rich red.

ROUND SECTIONAL

This boiler made the long fire travel famous. Large steam-dome. Handled very easily.

BIG TWIN SECTIONAL



50-inch grate, divided for easy installation and operation. Twin sections, divided down the middle.

TUBE TYPE SMOKELESS

For burning soft coal efficiently and without smoke. Like regular water tube type, plus smokeless feature.

HIGH PRESSURE HOT WATER SUPPLY

Sectional construction guaranteed up to 80 lbs. working pressure. Supplies up to 3,800 gallons. Furnished complete with relief valve and automatic Damper Regulator.

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For heating, hot water supply and incineration. Completely welded. Used up to 15 lbs. working pressure.

They Cost No More Than Products Worth So Much Less

THERE was a time when it would cost you more to buy a Burnham Boiler than most others. In spite of this, we sold a good many boilers and weathered this depression as well as several others, for you see we've been making boilers since 1857.

Our record for making high quality boilers, rendering high quality service, and treating our customers fair and square has remained unbroken since the beginning.

We are not so big a Company that we cannot give our personal attention to details that are generally lost or laid aside in the archives of a big corporation.

But now, with all the advantages that go along with Burnham Boilers and other Burnham Products you will find that in nearly all cases, in spite of their superiority THEY COST NO MORE.

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Representatives in all Principal Cities of the United States and Canada

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Will keep 175- to 700-gallon tank always full of hot water. Guaranteed up to 80 lbs. working pressure.

LAUNDRY STOVE

Triangular Revolving Grates. A pail of coal each 24 hours. Furnishes hot water for the average family.

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Occupy about ⅓ less space than ordinary cast iron radiators of same rating. Shorter. Lower. Narrower. Can be recessed in standard studding.

FERO TUBE RADIATORS

3, 4, 5, 6 or 7 tubes. Clean and efficient.

BURNHAM AIR AND VACUUM VALVES

Full line for radiators, risers and mains. Special construction for long life. 5-year guarantee.

STEEL TANKS

and complete line of other heating specialties of all kinds

Burnham Boiler Corp., Irvington, New York.

Send me prices and literature covering the complete Burnham line.

Name .....

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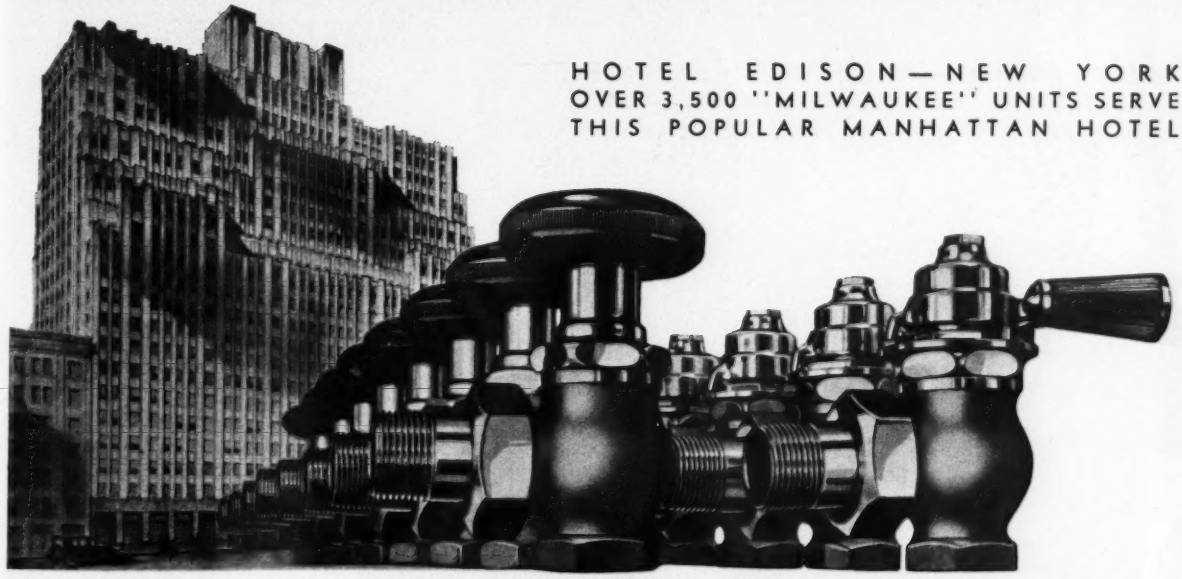
MILWAUKEE HEATING SPECIALTIES



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Many thousands of building owners, contractors and maintenance men . . . all over the nation . . . know that a "MILWAUKEE" installation means a trouble-free job.

"MILWAUKEE" Packless Radiator Valves, for example, are always easy to operate, never "bind" or stick and are absolutely leakproof.

The scientific design and precision methods of manufacture insure unexcelled, life-time service. Every valve is perfect in workmanship, finer in appearance and most liberally guaranteed.

A "MILWAUKEE" installation costs no more . . . but it does insure Continuous Trouble-free Service.

Practically all the better jobbers, everywhere, carry stocks of "MILWAUKEE" Heating Specialties. They'll give you instant service on your needs.

DISTRICT OFFICES IN TWENTY-FIVE PRINCIPAL CITIES

NRA MEMBER U.S. WE DO OUR PART

MILWAUKEE VALVE COMPANY

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MANUFACTURERS OF

"Milwaukee" Heating Specialties "Approved" Bronze Valves
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ARCHITECTS say:
"Concealed Radiation for Smartness"

ENGINEERS say:
"Cast-Iron Radiation for Dependability"

SATISFY BOTH WITH THE NEW

CAST-IRON ARCO CONVECTOR

All the efficiency and dependability of cast-iron radiation with the smartness of concealed radiation is combined in the New Cast-Iron Arco Convector. It incorporates all the latest developments in heating by convection.

The Arco Convector with the Arco Enclosure makes an attractive, dependable concealed radiator backed by the undivided responsibility of the world's largest manufacturer of heating equipment. Write for catalogue!

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40 WEST 40th STREET · NEW YORK, N. Y.

Division of AMERICAN RADIATOR & STANDARD SANITARY CORPORATION

A summer view of the laboratory home where experiments are being made in producing nature's best days

Ideal Conditions Provided in Laboratory Home* . . . .

BIOGRAPHY tells us that John Howard Payne, the homesick wanderer, never saw his dream come true as regards his own life, and that's why he wrote the song "Home, Sweet Home." But Elliott Harrington, air conditioning engineer, is faring better. His dream of sweeter air is fast approaching fulfillment, so he has no need to spend his time composing lyrics. Anyway, he's too busy studying dry bulb temperatures and relative humidity, air-circulation charts and dust-count records at his laboratory-home in Schenectady, N. Y., the very town where Payne once went to college.

Emphatically, Harrington's attractive ten-room dwelling, picturesquely suggestive of the colonial, is not the sort of home envisioned by the song-writer's imagination. To be sure, John Howard Payne would feel perfectly contented there. The place would satisfy every yearning of his temperamental soul.

It would do more, for before he realized what was going on it would greatly enhance his bodily comfort. First and foremost, however, it would excite his utmost curiosity. He would see in it things that neither he nor many succeeding generations ever supposed would be found inside a home. And if he conversed with the family that is living there, his curiosity would turn to amazement.

Such queer tales as they would have to tell him! Strange, unhomelike objects mixed in, more or less unobtrusively, with the conventional furnishings. And a collection of big metal boxes in the cellar, yet a cellar peculiarly clean and neat!

DUST COLLECTION AMAZING

How Mr. Harrington's mother, Mrs. Grant D. Harrington, the serene and hospitable lady of the house, would describe to him the novelty of her first experience with this thing which her engineering son glibly alludes to as "air conditioning"! And the home-yearning Payne doubtless would be scarcely less astonished than was Mrs. Harrington herself upon first seeing two tall glass tubes filled with dust which had been filtered out of the house air in a month's time.

"I was literally horrified," she exclaimed, smiling at the recollection, "when I realized how much dust must have been in the air of these rooms before my son began 'treating' it, as he says. I told him I thought the neighbors would call me a rather slack housekeeper when they heard about it."

The engineer son revealed, however, that dust is held in suspension in the air before it settles, and that when the air is put in circulation the dust is drawn into the

*By J. W. Hammond, General Electric Co., Schenectady, N. Y.

A winter view of the home where the aim is to keep it like springtime indoors

filters and removed before it has a chance to settle. So the Harrington house is clean because of the very fact that two quarts of dust are sucked out monthly by the filtering process.

When she first came with her husband to this "dustless house"—General Electric's air conditioning proving house—to make a home for her son and his two young boys, she had to get used to unusual surroundings. They told her it was an experimental station, as well as a home, and that because of this it has a great deal more apparatus in it than any home which is supplied with air conditioning for ordinary service. She could well believe this, for she saw wires dangling from ceiling to floor in every room, an array of dials and other black-boxed objects in the library with a sign on the bookcase reading "Danger—high voltage," and bulky apparatus crowding the basement, including a regular curiosity shop known as the "instrument room" located in the corner where the cold cellar ought to be.

Inside this room, instead of jars of jams and jellies, bulging sacks of potatoes, and baskets of good red apples, she saw with wondering eyes long rows of shiny switches along the wall, dials set into square black boxes standing around upon the table, curve sheets with their criss-cross lines, and a mess of wires everywhere. She went about her duties in the neat electric kitchen comprehending, with a thrill of uncertainty, that here assuredly was a home where housekeeping and engineering had gone into partnership. Secretly she hoped they would not attempt to mix!

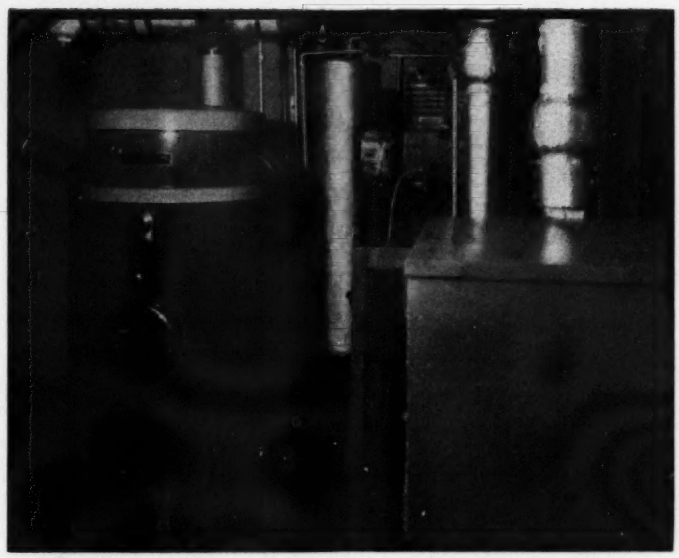
The amount of water which a ten-room house should contain in the air its occupants breathe

This last seemed a bit doubtful one hot summer's day when Mr. Harrington and the other engineers staged a major experiment with the cooling apparatus. The system worked perfectly and they let it run until the house became so chilly that the whole family had to go outdoors to get warm. There was some speculation by Mrs. Harrington on that occasion, in conversation with Mary, the maid, as to whether or not this episode might be reversed by a similar experiment during the winter.

MORE SURPRISES

The family, however, first really grasped the strangeness of it all when Mr. Harrington at the breakfast table broached his "imitation of nature" plan. Air conditioning, it seemed, has not yet completely imitated the best out-of-doors conditions. In its present state of development it is, to be sure, a recognized success, affording excellent regulation of temperature, humidity, purity and circulation, but the engineers want to make it even better.

"Our final object," explained Mr. Harrington, as he had remarked a number of times before, "is to reproduce a sunny, balmy spring morning out in the country, just



A view of the air conditioning equipment that is called on to produce ideal conditions

after a light shower has washed the dust out of the air. Such a morning, as we all know, is exhilarating. Also, there is a maximum of healthy surroundings. One feels that it is just great to be alive. The air, literally, is good to breathe. So far we've done much without treatment of indoor air—but we haven't yet created that stimulating feeling that sets us tingling on one of those fine mornings out-of-doors. Now, what's lacking?"

The two boys looked at him and their eyes opened a bit wider. Mrs. Harrington glanced up with mild wonder and Mr. Harrington's father regarded his son with interest.

"Tell you what I want to do," continued the engineering head of the proving house. "I'd like to have an 'out-of-doors room' in our home. It would be a sort of extension of the solarium, or sun-parlor, idea. Fact is, some of us engineers believe that future homes will be built with at least one room in which all ideal out-of-doors conditions will be duplicated. Maybe the whole house will be laid out to that end. Now, I'd like some time to block off the library with a raised threshold and try a stunt that may seem odd and yet may get us somewhere.

"First we want to reproduce sunlight, to some degree at any rate. I'll have our illuminating engineering laboratory light the library with sunlamps to a sufficient intensity. Then I'll cover the floor with a layer of earth and with sod—yes, real grass sod—and bring in some big stones or a rock or two to put around. And if I could get a few bushes or a small tree or so——"

They were all staring at him now, but he smiled back at them serenely. Mrs. Harrington murmured, "Anything else, son?"

"Then we must have some singing birds in there," went on the engineer, with enthusiasm. "They would have to be in cages, of course. Perhaps in concealed cages. But birds are part of the country—and it may be that the missing element in air conditioning is a psychological influence. We want the smell of good brown earth and grass and —yes, it may be that we ought to get a few dozen fat worms and let them burrow into the dirt."

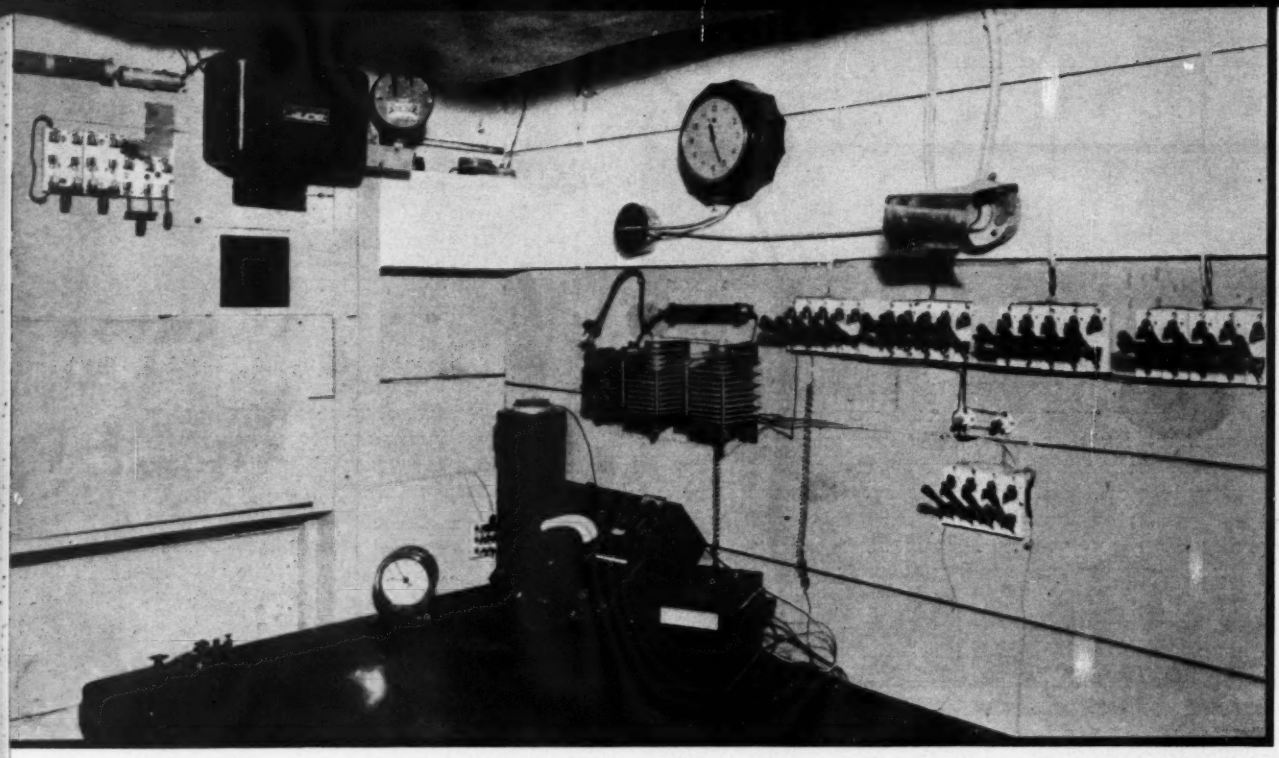
"Worms! In the house!" There was an astonished chorus of exclamations. The conservative wing made itself strongly heard. Nevertheless, so thorough is the engineering method and so much of the research experimenter is mingled with Mr. Harrington's engineering that he has not yet abandoned the idea of turning part of his home outside in, so to speak, with all of nature's characteristics under one ceiling—including the worms. Air conditioning now comprises four factors, and yet does not seem to be quite perfect. This may be one way, he thinks, of hunting for the missing fifth element.

"Nature does more than we have done as yet," he observed reflectively. "Therefore, in our experiments we intend to do everything that nature does—but do it indoors. We shall endeavor not to overlook anything that seems to belong in the general scheme, until we discover what it is we now lack to establish ideal 'indoor weather.'"

METER TO MEASURE COMFORT

The idea of using in this work a "comfort meter" is another innovation. In effect the comfort meter will be

One of the thermocouples in a corner of the library



Instead of storing jams and jellies in this room, they filled it with instruments to record the results achieved

a species of mechanical human body which will be able to announce whether or not the house is scientifically comfortable. In appearance this device may be simply a large metal globe. It will tell its story silently. Instead of saying "I'm warm," or "I'm cold," or "It's stuffy in here," it will "talk by means of pointers moving along dials."

It will do far more than indicate the proper temperature; any ordinary thermometer can do that. It will also register the relative humidity, the movement of the air, and its freshness, or purity. These last are conditions on which no human being could reliably report because they would have no way of telling whether the slight air currents inside a house are moving fast enough or too fast, or whether the air is free from dust or not.

But Mr. Harrington also intends to call upon the dwellers in his household to supplement his sensitive electric instruments. When some new air-conditioning device is to be tested, members of the family will be asked to arrange their activities so that they can sit beside the gadget for an hour or two and keep a log of their physical feelings.

"Some of the data we are after," said Mr. Harrington "can not be determined merely with instruments. We must have a record also of the physical sensations of persons—especially since the comfort meter will not be ready for some time to come. I think the household is nicely constituted to give us a well balanced story. There are the two boys, whose ages are around eight to ten; there are several of us in the middle range of life; and there are two persons who belong in the elderly group.

"Already our air-conditioned home has had one effect. My father has been in somewhat poor health for several years, and has found it desirable to spend his winters in Florida. When he came here last summer, it was understood that he would again go south before cold weather. But after seeing what we are doing and becoming familiar with the practical progress already accomplished he has made up his mind to stay north and live here with us. We feel quite sure we can give him an indoors climate as delightful, as comfortable and as healthy as the best that Florida can offer."

HOME TEMPERATURE DIFFERENCES

Probably few American homes have had their air conditions so intensively analyzed as the Harrington dwelling. They have established already one pertinent finding—that the temperature differential between floor and ceiling, when not regulated by the air supply system, is as great as 17 degrees Fahrenheit. A person standing erect is in a temperature of 70 degrees at the breathing line, while a child playing on the floor at his feet is in a temperature of 62, and just beneath the ceiling the temperature is as high as 80. With forced air circulation this differential has been reduced to only two or three degrees.

"We expect to work away in our proving home for some years at least," said Mr. Harrington. "We are aiming to develop a thoroughly satisfactory system for making interiors both comfortable and healthy to a maximum extent. We rather expect to run into new conditions and discover new factors, particularly in studying ionization of the air in conjunction with the medical profession. The family? Oh, they're cooperating all the time. Good sports, all of them."

Standing there in the parlor of Mr. Harrington's unique residence, with thermocouples swinging from ceiling to floor and radiator fins and air ducts peeping out from the corners of the room, it was easy to imagine the nineteenth century lyricist stepping up and shaking hands with the twentieth century engineer. After all these years the real "home, sweet home" seems at last just in sight, only a few paces down the road.

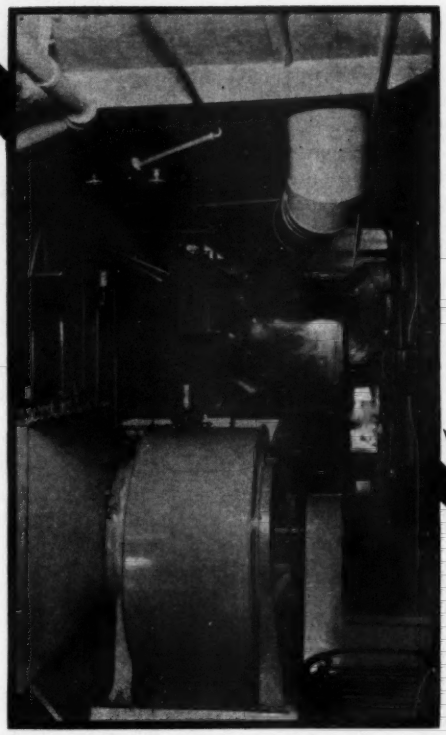


Fig. 1—Electricity has a wide application, especially in regard to the operation of air conditioning equipment as shown here

Electricity Facts

Some important fundamentals are clearly explained

This introduces a series designed to tell what the dealer should know about electricity. R. C. Allen, general engineer, Westinghouse Electric & Manufacturing Company, is the author of this first installment.

ELECTRICITY, formerly so mysterious, has become very commonplace, and though it is true that no one knows what it is, yet as far as getting it, and measuring it, and using it is concerned, more is known about electricity than about water, or hot air, or steam.

Electric currents can be understood easily, and fairly accurately, by comparing them with currents of water flowing in a pipe. The "pipe" for electricity is a wire. The "pump" which supplies the pressure to make the electricity flow is the *Generator,* formerly called the *Dynamo.* There is one difference that must be kept in mind; in the case of water systems, you usually do not have to worry about taking care of the water after it escapes from the faucet at the point of use; it can be drunk up, or carried off in a bucket, or it can soak into the ground, or drain off into a gutter. But an electric system is like a water system which is "closed," and has no outlet to the air; a system, for instance, made by drilling holes into solid rock underground; a system where the water is not to be consumed, but is to run some sort of hydraulic machinery, and must then be returned, all of it, to the pump to be used over again. In such a system, wherever a supply pipe runs, a return pipe must run also. Otherwise, the supply pipe would merely fill up with water under high pressures which, not being able to escape, would stand motionless in the pipes—there could be no flow, or "current"; and it is the current that does the work. So, wherever the supply wire goes, there too must go a return wire.

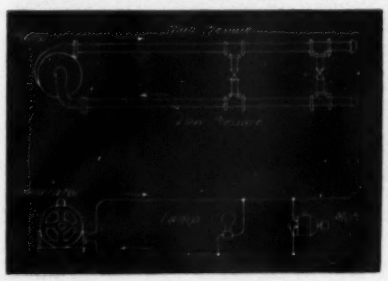


Fig. 2—Analogy between a generator and its wiring and a water pump and its piping

There is some exception to this. Even in the case of the water system bored in solid rock, there might be chance crevices or voids, which, if they extended back to the pump, could be used instead of return piping. Similarly, in the case of electricity, there are often other structures around that will carry current, beside the

wires, "crevices," so to speak, in the general world of insulating material that surrounds wires. When these electrical "crevices" are reliable, you can use them instead

Fig. 3—This represents a typical ground return system

of the return wire, to carry the current back to the generator, or "pump."

Thus the current that runs street cars goes out over the insulated trolley wire, and returns through the rails of the track. Automobile starting, lighting, and ignition systems usually have but one wire; the current returns through the car's steel frame. On shipboard, too, electricity is often sent out over a single insulated wire "under pressure," and returns through the steel of the hull. The ground itself can be used in this manner, to carry current back to its source, provided it is not too dry, and country telephone lines often work in this way.

Any uninsulated structure which just happens to be around, which is used to carry current, though not intended especially for that purpose, is called a *"ground."*

Such *Ground-Return Systems,* which need only one insulated wire, are cheap and simple, but for regular light and power service inside buildings, they are not considered safe, and a return path for the current must be provided with the same care as though no ground return were possible.

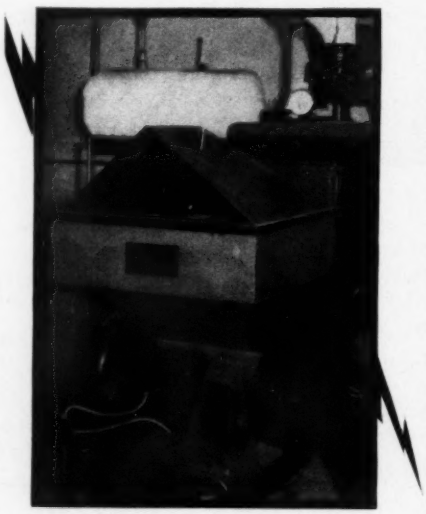


Fig. 4—Here is the application of electricity to automatic heat, equipment

Sometimes, insulated electric wires become accidentally connected to a pipe, a piece of machinery, or some other conducting object that happens to be about. The current under pressure is then likely to leak away without performing its work—exactly as a big leak in a high-pressure water main might let the water run to waste without doing its duty. Such a fault is called a *Ground.*

In the case of failure due to a "Ground," the current gets away, and returns through any casual path it can find. If it so happens that the insulation on both the outgoing and return wires fails, so that the current can escape directly from the high pressure wire to the low-pressure wire, this is called a "Short-Circuit." Short circuits are almost always fairly violent, and immediately interrupt the service by operating the safety devices. Grounds are often more troublesome to find, and may not be violent enough to work the safety devices.

Pressure. The pressure that makes water flow in a pipe is measured in "pounds per square inch." The pressure that makes electricity flow in a wire is measured in "volts." Of course the supply pipe in a water system is not the only one that is under pressure—the returning water, even if it is an open gutter, is under at least the pressure of the atmosphere, 15 lb. / sq. in., and if it is in a closed return pipe, the pressure may be quite high. What counts, and makes the water circulate, is the *difference in pressure* between the high and low sides of the system. If the water goes out at 200 lb. pressure, and returns at 110 lb., it is exactly the same as if it went out at 100 lb. pressure and returned at 10 lb.

The same thing is true of electricity; it is not the "absolute pressure" in the wires that counts—(in fact, we don't know what that is)—it is the difference in pressure between the outgoing and returning sides of the circuit.

Standard Voltages are 115 volts for lighting, and either 115 or 230 volts for small motors. Above 10 horsepower or so, where it is worth while to provide a separate power supply for the motors, the voltage is likely to be 440. In some cities, what is called the "three-wire low-voltage network" is becoming common. In this case, the voltage for lights and smaller motors is likely to be 120 volts and 208 volts, instead of 115 and 230. The little independent gasoline-driven generating sets that are common on farms and country places usually supply 32 volts, though sometimes 115. Most automobiles use 6 volts for starting, lighting, and ignition. Street cars use 500 to 650 volts.

All electric light and power systems now used (except some street lighting) are arranged with the idea of keeping the pressure, or voltage, constant whether they are carrying much load or little; like a water system fed through a standpipe or water tower.

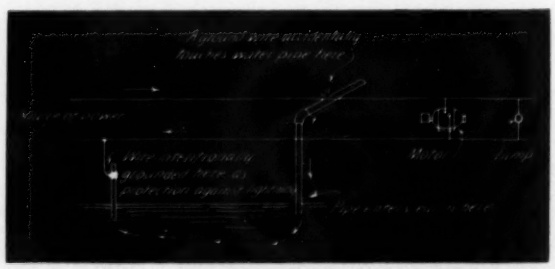


Fig. 5—An accidental ground may rob the apparatus beyond it of power, as well as wasting current and creating a fire hazard. Wiring systems are commonly grounded intentionally on one side as a protection against lightning hazards

When buying new motors, or other devices, it is important to make sure that they are intended for the voltage on which you intend to operate them.

If lights are dim, or motors do not show the power expected of them, the first thing to do is to measure the voltage of the supply circuit, and see that it is actually up to normal. Often a power supply circuit, originally satisfactory, is gradually overloaded by the addition of one device after another, until it is no longer adequate; this shows up in low voltage, and unsatisfactory performance. The answer, of course, is to revise the supply circuit, and bring its capacity up to present demands.

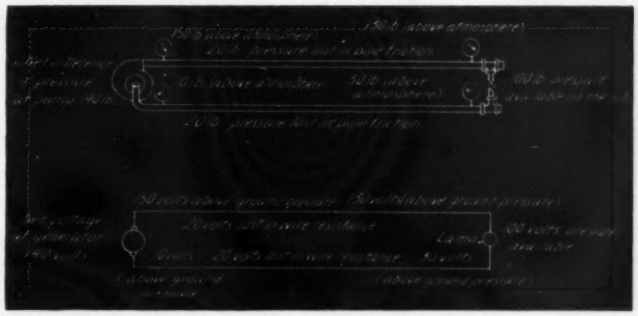


Fig. 7—This shows how the loss of pressure in piping is similar to loss of voltage in wiring

What Is Dangerous? What voltage will kill depends mostly on the surroundings under which the shock is received. Generally speaking, 32 volts and below are regarded as completely harmless, and can not even be felt. If, while standing on dry wood, you touch a dry hand to one wire only at 115, 230, or even 440 volts, you will probably feel no shock at all. Under the same circumstances, to touch both wires of 115 volts would probably mean a brisk sting, and 440 volts a good hard jolt, possibly even fatal. On the other hand, people are killed every year by touching only one 115 volt wire, with a wet hand, and while standing on a wet floor, or in a bathtub. The safest plan is never to work on live wires, above 32 volts, especially near piping systems, or in basements and other damp places.

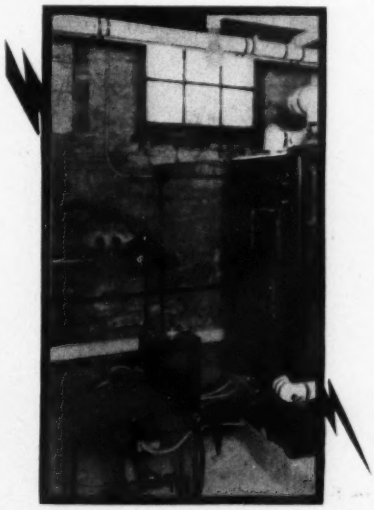


Fig. 8—Oil burners require the application of electricity in several ways

Amount of Current. With water, you measure the quantity of flow through a pipe in "gallons a minute" or "cubic feet a minute." With electricity, you measure the flow through a wire in "amperes." This matter of amperes is important in considering whether a wire is large enough to do its work, and how much added load can safely be connected to existing wiring. Safety devices, like fuses and circuit-breakers, are set to cut the power off when the current exceeds the number of amperes that is considered safe.

An idea of the size of an ampere—an ordinary 50 watt lamp uses a little less than a half ampere. An old-fashioned electric iron uses about 5 amperes. So does a motor of about three-quarters horse power at 115 volts. The size of wire most commonly used in housewiring—No. 14—is allowed to carry 12 amperes.

Resistance. It takes some "head," or pressure, to make water flow through a pipe, because of the friction against its walls. More pressure is needed to force water through a small pipe than a large one, through a long pipe than a short one, and more to force a big flow through a pipe than a small flow, through the same pipe.

Similarly, every wire resists the flow of electricity through it somewhat. A small wire has more resistance than a large one; a long wire has more resistance than a short one; and it takes more pressure (volts) to force a large current through a wire, than a small current through the same wire. Different materials have different resistances; copper is used for wire because its resistance is less than that of any other common metal.

This resistance to the flow of electricity is measured in OHMS. It takes one volt of pressure to force one ampere of current through one ohm of resistance.

(All these tricky names are given in honor of great electrical inventors. There are all sorts: "gilberts" and "henries" and "joules" and "farads" and so forth.)

Resistance is a bad thing in the wires which get the electricity to its job, and every effort is made to have the resistance as small as possible, for every volt lost in getting the current to the point where it is needed is a volt less for doing the work when it gets there.

On the other hand, when the current finally arrives at the job, resistance is an important way of using it. For

(Continued on page 65)

Fig. 6—The upper set of sketches shows how direct current flows. The lower set illustrates the principle of alternating current

This Dealer Specializes on Stoker Sales and

Sells Ten Every Month

Starting with demonstrations in his place of business is good business for this stoker dealer

"SUCCESS in merchandising automatic heat depends to a great extent upon the enthusiasm of the dealer," says the executive head of an eastern stoker dealer organization. "We began to merchandise automatic stokers several years ago and have been able to make a steady gain in sales volume despite the present economic conditions. During the first part of this year we have been able to average ten stoker sales a month, and with an increasing prospect list we are confident of doing better than this in the future.

"Before attempting to sell automatic heat to others," he continued, "I first convinced myself that the stoker offered certain definite advantages for the average home owner. My own experience combined with that of satisfactory installations we have made forms the basis of our selling talks, and I do not believe that a dealer can do a good selling job unless he himself has been thoroughly sold on the equipment he intends to sell to others."

PERSONAL CONTACTS PRODUCE SALES

The organization relies entirely upon personal contact to develop prospects and close sales. "We do not employ the so-called canvasser type of sales people whose only purpose is to develop leads. The men we employ for sales work are added to our organization because of our belief that we can develop them into successful stoker salesmen.

"Our men are divided into two groups which we choose to designate as junior and senior salesmen. A junior salesman works under the supervision of a senior salesman until he is fully qualified to meet every sales problem and close sales. We have no iron-clad rules regarding the methods or remuneration for junior salesmen. We prefer to treat each man as an individual and to allow him to work out his selling plans so that he

can bring the best of his ability and personality to the front. We use no standardized sales talks, even though the same sales equipment is furnished to each man.

HOW SALESMEN ARE PAID

"The junior as well as the senior salesmen are paid on a commission basis. The maximum commission paid is 18 per cent, and this is paid to both juniors and seniors provided they are able to close sales without assistance. In the case of a junior who requires the assistance of the senior who supervises his work, the commission paid for each sale closed in this manner varies according to the circumstances and the agreement between that particular junior and senior salesmen.

"In any event, both men realize that 18 per cent is the maximum. Where a junior has a prospect who can be sold without much difficulty by the senior, these two men may agree that the junior is to receive 13 per cent of the total commission for locating and leading the prospect up to the point of closing, while the senior will accept 5 per cent as his share for actually closing the sale. In other cases, where considerable work is required of the senior salesman, the commission may be divided equally between the two men. We have been advocating this method in an effort to give each man due reward for the results achieved as well as to give the junior men a real incentive to develop their selling methods."

This firm pays its salesmen as soon as the sales contract is duly signed by the customer, whether sales are for cash or on time payment. Contracts calling for deferred payment are placed with a finance company, so that the firm takes its cash for every job instead of tying up its assets in accounts. Sales during the past six months have been averaging about 65 per cent on a cash basis and 35 per cent on the deferred payment plan.

Asked whether he preferred mechanically trained men or specialty salesmen for stoker selling, this dealer executive said:

"I am frank in saying that I do not know of any particular selling type. Our men who have made good have been of both types. However, there is one thing of which we are certain. It is not advisable to employ young men, men under thirty, for this work. We prefer men around forty because the average home owner prefers to discuss his heating problem with a man who at least appears to have had some experience."

SALES BEGIN AT HOME

This dealer believes in demonstrating as well as displaying stokers right in his own building. In the show window is displayed a complete stoker and boiler unit. A number of photographs are displayed showing actual installations, and on a large card forming the background for the display are the names of several scores

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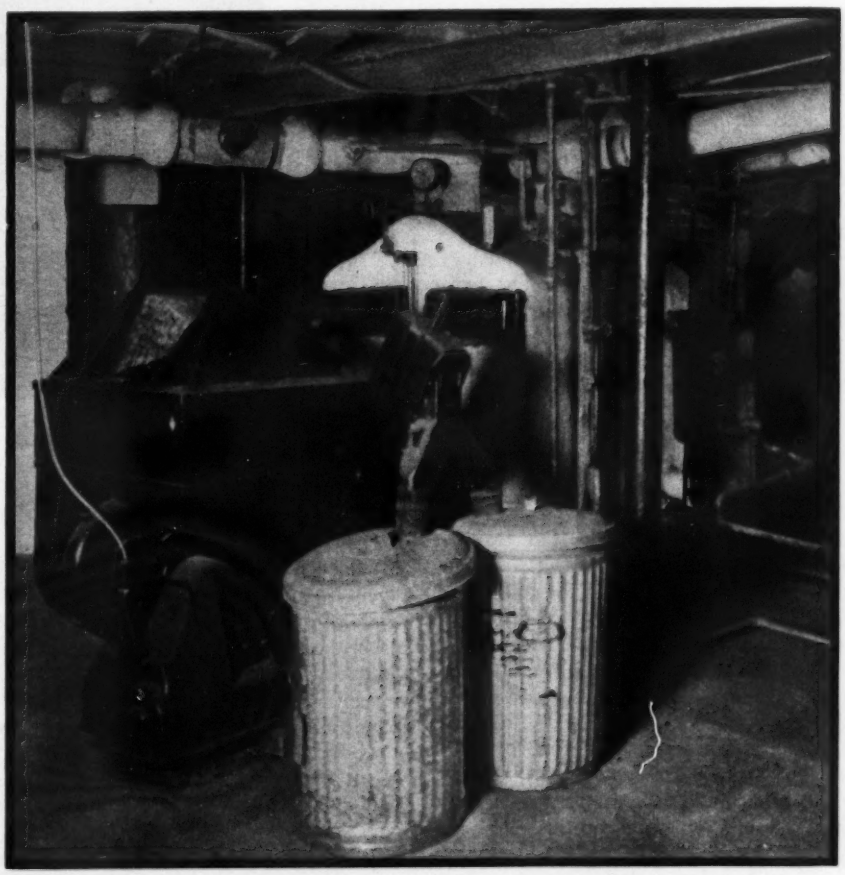


Another stoker installation bringing the comforts of automatic heating to the home

Describes Work of Oil Burner Code Authority

In its first full month of operation under the code of fair competition for the Oil Burner Industry, the Oil Burner Code Authority moved into the work of administering the industry's code, which was approved by President Roosevelt on September 18, and "found the industry, in general, earnestly cooperative in all matters of fair trade practice," according to Morgan J. Hammers, chairman of the Code Authority.

"Rather than noting any general confusion," Mr. Hammers reported, "the Code Authority found an optimistic and understanding attitude displayed throughout the several branches of the industry. Over and above the wage and labor provisions of the code, in which the industry was quick to concur, there seems to be a true appreciation of the constructive purposes behind the fair-practice provisions of the code."

Up to November 1, the Code Authority, after contacting the industry's some 15,000 outlets of manufacture, sale and distribution, had satisfactorily adjusted some 140 complaints or violations, had projected a number of individual investigations among those who appeared in violation of the code, had issued a complete set of explanations and interpretations on various provisions of the code, had held a preliminary meeting with industrial burner manufacturers, had conducted two organization meetings on behalf of its own program and had projected the industry's uniform cost-accounting program as required by the code. With respect to making filed prices available to all units of the industry, the enormous nature of the task of analyzing and collating the price lists already at hand was pointed out and it was stated that prices would be distributed to the industry as soon as possible.

62 Per Cent File Prices

With reference to compliance with the Oil Burner Code in the matter of filing prices, the Oil Burner Code Authority announced that 62 per cent of the manufacturers contacted had filed prices as of November 1, this number, moreover, reflecting an even greater percentage of the industry's total production. This response in the first month of the Code Authority's activity was considered most gratifying and indicative of the oil burner industry's earnest effort to achieve the full benefits of the code as quickly as possible.

"It should be borne in mind," it was stated at the Code Authority's offices in commenting on this phase of the activity, "that the Code Authority can work only as fast as the members of the industry will permit by compliance and cooperation all along the line. While prices have been filed by some 1,000 dealers, this is only approximately 10 percent of the total number that must file. The beneficial distribution of prices, among all branches of the industry, awaits a more nearly complete return of the industry's prices."

"Furthermore," continues the statement, "there is no reason for dealers to delay in filing the prices required by the Code Authority, these prices being simply the current prices of the dealers which may be modified or adjusted later if desired."

Code Authority Personnel

In the matter of the Code Authority's announced policy that it will seek to decentralize administration of the code through local oil burner associations, a questionnaire has been sent to all active associations numbering 25, inquiring about their standings and their desire and ability to assume local responsibility when developments permit. In line with this step, preparation is under way for a regional and zoning plan further to effectuate the work of the local associations and the headquarters organization.

With the approval of the Administrator, the Code Authority leased space adjoining the American Oil Burner Association in the Canadian Pacific Building at 342 Madison Avenue, New York City. Incorporation papers have been drawn up and filed with the Secretary of State of New York. The officers of the Code Authority consist of the following: Mr. Hammers, president, the American Oil Burner Association, chairman; Haldeman Finnie, vice president the Timken Silent Automatic Company, vice chairman; L. E. Johnson, president the Lynn Products Company, vice chairman; R. S. Bohn, president, Preferred Utilities Company, vice chairman, and Harry F. Tapp, executive secretary, American Oil Burner Association, executive secretary. A standing committee on Class 4, (distillate) burners was appointed as

Morgan J. Hammers
Chairman Oil Burner
Code Authority

(Continued on Page 56)

Automatic Heat and Air Conditioning Questions

Walls and Ceiling Sweat

To the Editor:

I am enclosing a sketch, see Fig. 1, of steam valves and piping in the hall of a hospital. Over the valve room the ceiling is falling off. This is caused by condensation from the steam pipes, also the water runs down the walls of Hall (A) which is three stories high. The covering on the pipe is very wet especially the cold water pipe.

The floor above the valves is made of concrete used as a porch not closed in. The rest of the hall is under the main building. We have here in winter a temperature, ranging from 20 degrees below zero to 40 above, subject to rapid changes. There is about eighteen inches of snow at the present time.

What procedure would you take to overcome the sweating of the walls?

Moncton, N. B., Canada. C. G. W.

To the Reader:

In cold climates, when the roof of a heated room is made of concrete, the practice is to insulate it. Usually, this is done by applying several layers of board insulation to the upper side of the roof, using tar to bond the layers together and to the concrete itself. Then, on top of this, there is laid the regulation built-up tar and gravel covering. Since you specify that the roof in question serves as a porch floor, this treatment would be unsatisfactory, unless the owner would be willing to overlay it with flooring.

Your problem is solely that of relative temperatures. The concrete floor which is uninsulated is directly exposed to the extremely low outside temperature and becomes very cold. This chills the air in the hall below to such a degree that the moisture contained in it is condensed out and is deposited on the surface of the ceiling. In addition, it is very likely that a considerable amount of moisture is condensed on the underside of the concrete. The extremely low temperature undoubtedly causes this to freeze and form a heavy frost. Then, when the weather moderates, or when the inside temperature is high enough, the frost is melted and the water drops down on the plaster below with the result that it causes the plaster to disintegrate and fall as you have indicated.

Undoubtedly, the condition is further aggravated by the adjacent kitchen which has three openings into the hall. The large amount of steam produced in cooking naturally would cause a high humidity condition to exist. If it is impractical to insulate the ceiling sufficiently to cut down the heat loss and thus increase the temperature of the interior wall and ceiling surfaces to a point above the dew point, a second solution is that of increasing the temperature in the hall so as to counterbalance the high rate of heat loss. We assume that the piping you show is thoroughly insulated. Increased heating in the hall may be effected by removing this insulation. Since the piping is at the ceiling and since that is where the heat is necessary to prevent the formation of condensate, this plan should be very effective, provided this loss of heat does not interfere with the operation of the plant as a whole. You might start out by removing a small amount of insulation and experiment somewhat to determine just how much heat is necessary to correct the condition. Also, you might ventilate the kitchen and prevent steam from entering the hall.

Wants to Stop Creosote in Chimney

To the Editor:

Would it be too much trouble to advise me what I can do to stop cresoté in a chimney that has an oil range burner connected to it.

There are several such cases that I have been called

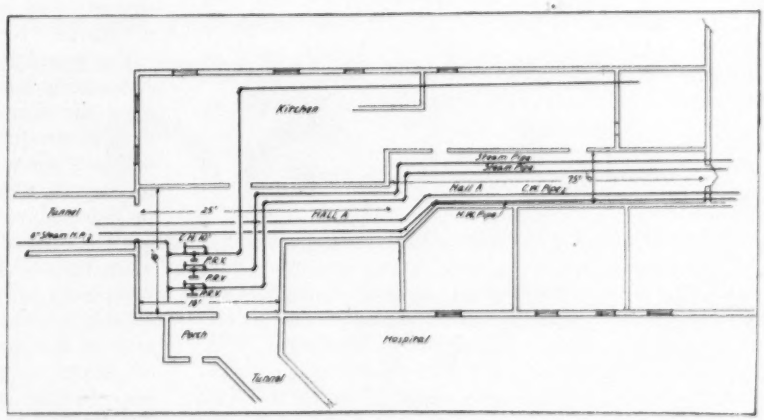


Fig. 1

to correct. I have tried different things but have failed to stop the difficulty.

Maine. K. H. G.

TO THE READER:

Probably the most effective way is to tear down the chimney and build a new one which is provided with a tight lining of flue tile. If this is impractical, you might line it with some corrosion resisting material. In this way, any moisture which is formed inside of the chimney is conducted to the bottom of the chimney and may be drained off into a pail or to a floor drain without causing further damage. If the chimney has no

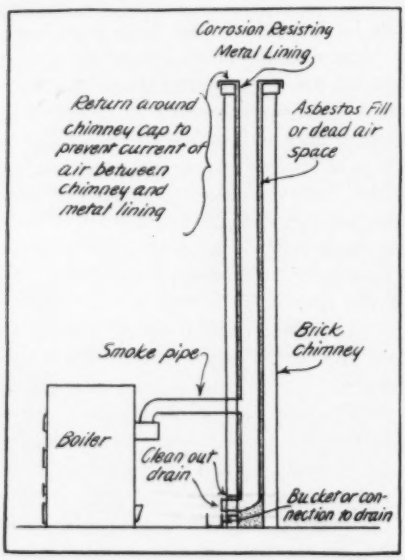

Corrosion Resisting Metal Lining
Return around chimney cap to prevent current of air between chimney and metal lining
Asbestos Fill or dead air space
Brick chimney
Smoke pipe
Boiler
Clean out drain
Bucket or connection to drain

Fig. 2

offsets, it should not be difficult to have a metal lining made in one piece which can be dropped in place through the top opening.

Care, of course, should be exercised in order to make the joints drain into the lining. In addition, you should make sure that the lining does not cut down the effective opening of the chimney to the end that sufficient draft is not provided to carry away the products of combustion. A further precaution could be taken by filling the space between the metal lining and the present brick chimney with concrete or some insulating material.

How the Problem Was Solved

TO THE EDITOR:

This will advise you as to what I did in remedying the condition about which I wrote you recently. Each of the chimneys in question was about 20 ft. high. Only one burner was connected to a chimney. The accompanying sketch marked Fig. 2 shows the details. Six-inch metal pipe was dropped into the chimney. I covered this with asbestos paper, about ⅛-in. thick. This keeps the metal liner warm and the sheet metal cap between the liner and the chimney keeps the cold drafts out. The installations connected now are entirely satisfactory.

Maine. K. H. G.

What Is Temperature of Condensate?

TO THE EDITOR:

I would like to ask you if you can tell me approximately the temperature of the water (condensate) as it leaves the return trap in a job where central plant steam is used. The average of these jobs I would say would run about four to six hundred feet of direct radiation and is supplied with steam on the house side of the regulator of about two to three pounds. This is meant as it leaves the heating system and before it passes through any cooling coils or meter.

Pennsylvania. B. P. R.

TO THE READER:

The answer to this is entirely dependent upon the trap which is used. No doubt it is unnecessary to point out to you that the purpose of the trap is to keep steam from passing into the return system and that this is accomplished by a thermostatic element which is, in turn, actuated by changes in temperature. The temperature at which condensate will be discharged from the radiator depends upon the design of the thermostatic element. For instance, one manufacturer makes a trap which will pass condensate when the temperature is from 207 to 209 deg. Fahr. This same manufacturer makes another radiator trap which does not pass condensate until the temperature drops to 190 deg. Fahr.

It may be considered that the average radiator trap operates from 195 to 200 deg. Fahr. Obviously, this temperature is the temperature of the condensate.

We do not know how you wish to use this information. If you have the problem of utilizing the heat in this condensate, and if you intend to pipe it to other equipment, the net amount of heat will be minus that lost in the piping.

Offers Blanket Insurance Policy to Oil Burner Industry

A blanket coverage for low-cost life insurance on the one-year term plan, such as has been obtainable in the past only through industrial group insurance, has been successfully worked out for the oil burner industry by executives of the American Oil Burner Association with the Bankers National Life Insurance Co. of New Jersey.

Previously approved by the board of directors of the Association during the 10th Annual Convention in Chicago, the insurance plan in all its details was brought to a successful conclusion the latter part of July and it is now operative for all those in the industry who care to take the steps essential to acquiring life insurance at rates beginning at $7.59 a thousand. Medical examination is required only if the applicant desires to take out more than $3,000 of insurance or if he is more than fifty years of age. Those eligible for insurance under blanket coverage include all officers of corporate members of the manufacturer division of the A. O. B. A., all officers or partners of the dealer division members, all individual members of the A. O. B. A., and all employes of manufacturer and dealer members who become members of the individual division of the Association.

...it takes TWO
TO PLAY PINOCHLE

This is the popular and efficient No. 2B.

And this your old friend, the No. 1.

To even enjoy the game we need each other. It's more than a one man job—carrying the comfort and economy of Dole Syphon Air Valves No. 1 and Dole Vacuum Valves 2B to all those who need them. We are not leaving you to go it alone. Back of you is the force of our advertising to your *biggest* prospects. As we work together, you'll *enjoy* the game and the profits

DOLE

SYPHON AIR AND VACUUM VALVES

OVER—

WIN GREATER PROFITS IN THIS *two-handed* GAME!

When we told the N. R. A. we'd do our part, we meant it. We included you in our plans, too.

Selling and installing Dole Valves, is a game in which you can do better if you don't have to play two hands at once. So we are doing our part.

We are helping you sell. Our share in preparing the way for you to get your profit, is this: We chose the class of customers to whom you can sell Dole Valves in quantity—your richest market: Owners, operators, managers of apartment buildings, hospitals, average sized hotels, office buildings, factories and stores—these are *real* customer-prospects. We are placing the name and the selling points of Dole Valves before them in such magazines as National Real Estate Journal, Hospital Topics & Buyer, Building Maintenance, and Hotel Monthly.

SUBSTITUTE WARMTH AND ECONOMY
for
WASTE
DISCOMFORT
DAMAGE
Sizzling, knocking radiators—slow to heat—are a drain on your budget. They cost you real money—plus the discomfort of cold, health-menacing rooms. Fuel consumption leaps to a high percentage of waste when radiator air valves do not work properly.
Consider what you could do with a one-third saving in your heating cost. Tests have proved that efficiently installed Dole Valves will save that amount. And you avoid the risk of spoiled carpets, furniture, draperies and floors damaged by steam and water from spitting valves.
Why pay the tax of inefficient valves? Provide Dole comfort (see chart)—Let it pay for itself. Be economical. Phone your steamfitter and ask about Dole Vacuum Valves. Or, write us for full particulars.
Dole
RADIATOR AIR VALVES
THE DOLE VALVE COMPANY • 1913-1933 Carroll Avenue, Chicago, Illinois

You can sell a gross as easily as half a dozen in these markets. That's where the *greater profits* come in. The Dole Vacuum Valve No. 2B and the Dole Syphon Air Valve No. 1 head a compact line for every air valve need—easy for both jobber and steamfitter to stock and sell. It's a fast moving line. Tie to it.

Dole

THE DOLE VALVE COMPANY
1913-33 Carroll Avenue
Chicago, Illinois

←OVER

Motor Wheel Corporation Holds Sales Meeting in New York City

The Heater Division of the Motor Wheel Corporation of Lansing, Mich., held a sales meeting for its distributors and dealers at the Hotel Lexington in New York City on Thursday evening, November 16. M. F. Cotes, manager of the Heater Division of the corporation, addressed the meeting and outlined the merchandising plans for the 1933-34 winter season. He also discussed the corporation's space heaters, boilers and other units. W. R. Rich, district representative for New York territory, assisted Mr. Cotes.

Air Conditioning Industries, Inc., Expanding

Air Conditioning Industries, Inc., of New York City announces that it has acquired a majority interest in Air-Control Systems, Inc., of 2240 North Racine Avenue, Chicago. For the time being the manufacturing plant will remain in Chicago, but the executive and sales departments have been removed to the offices of the Air Conditioning Industries, Inc., at 101 Park Avenue, New York City. The president of this concern is W. D. Jordan.

Will Service Oil Burner Equipment

The Connecticut Oil Burner Supply Company has been organized and has started in business at 400 Cook avenue, Meriden, Conn. Riccardo Miglietta is at the head of the new company.

Will Manufacture Oil Burning Equipment

Saf-Way Manufacturing Company of Hartford, Conn., has been incorporated with a capital of $10,000 to manufacture oil burning equipment. The incorporators are: Hugh X. McHugh, 118 Hungerford street, Hartford; Charles Koehler, 72 Freeman street, Hartford; Alexander Nesbit, 20 Imlay street, Hartford, and George Viulle, 58 East Main street, Plainville, Conn.

Getchell & Nelson Oil Burner Corporation, Inc., of Brockton, Mass., has been incorporated to manufacture oil burning equipment. The officers of the company are: President, Charles G. Nelson; treasurer, James E. Getchell, 529 Pleasant Street, Brockton; Daniel F. Connors.

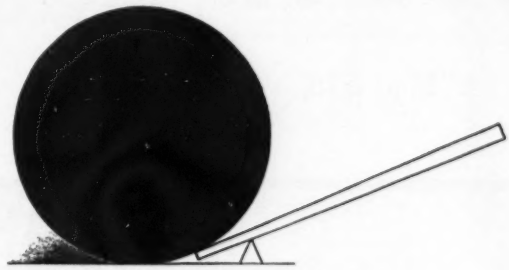
The Wizard Oil Burner Company has started in business at 1083 Main street, Hartford, Conn. F. Shoor is at the head of the new venture.

The Manchester Oil Burner Company has started in business at 595 Main street, Manchester, Conn. J. D. McCann is president of the new company.

The Worcester Oil Burner Co., Inc., of Worcester, Mass., has been incorporated to manufacture oil burners. The officers of the company are: President, G. Sacks; treasurer, Bernard F. Sacks, Chapel Street, Leicester, and secretary, Louise McEvoy.

C. M. Merrick & Co., Inc., of Brockton, Mass., has been incorporated with a capital of $25,000, to manufacture oil burning equipment. The incorporators are: Clayton M. Merrick, president and treasurer, 41 Byron Avenue, Brockton, Mass.; Dominic P. Curran and Marvette Dresser.

The Red Devil Oil Burner, Inc., of Fall River, Mass., has been incorporated to manufacture oil burners. The officers are: President, Clinton R. Padelford; vice presi-



WHERE THE LOAD IS HARD TO START

Pumps . . . Compressors . . . Stokers! Where the load is hard to start, it's easy—if you use a Century Motor of the right type and size . . . Century Single Phase Motors—Brush Lifting or Brush Riding—start against the load . . . meet automatic or remote control requirements . . . And—"They Keep-a-Running".

CENTURY ELECTRIC COMPANY
1806 Pine Street St. Louis, Mo.
Offices and Stock Points in Principal Cities

Century MOTORS

SPLASH PROOF
Indoors—Outdoors

NEW . . .

No. 515

IDEAL VACUUM VALVE

SHOWING THE POWERFUL BELLOWS WHICH PRODUCE POSITIVE SEALING ACTION

Built Upon an Entirely New Principle—Positive and Powerful Bellows Seal Maintains the Vacuum and Keeps Radiators Hot

As soon as the steam enters the valve, it causes expansion in the float and the concave diaphragm snaps into convex position, forcing the seating pin to seal the vent. When the steam pressure drops, the return of air into the radiator is prevented as the vacuum causes the bellows to expand and keep the valve sealed. Shell is chromium-plated.

No. 515 Ideal Vacuum Valve

No. 516 Ideal Vacuum Valve

ASK YOUR JOBBER TO SHOW YOU THIS NEW VALVE!
Convince yourself by comparing this moderately priced improvement with any vacuum valve.

AMERICAN RADIATOR COMPANY

40 West 40th Street, New York, N. Y.

Division of
AMERICAN RADIATOR & STANDARD SANITARY CORPORATION

dent, Joseph P. Clark, Jr.; treasurer, Hubert C. Padelford, 2050 Highland avenue, Fall River, Mass.

The Blue Flame Oil Burner Mfg. Co. has been established at 283 Market street, Hartford, Conn., by George Robin.

Oil Burner Code—

(Continued from page 50)

follows: L. E. Johnson, H. H. Morse, secretary and director of the Distillate Burner Manufacturers Association, and Harry H. Goldstein, president the Independent Range Burner Manufacturers Association.

In addition to the officers, the following complete the executive personnel of the Oil Burner Code Authority: Major R. B. Paddock, deputy administrator, representing the administration; R. M. Sherman, president of the Silent Glow Oil Burner Corp., and member A. O. B. A. executive committee; W. J. Smith, vice-president of Cleveland Steel Products company, and executive committee member of the A. O. B. A.; W. S. Salway, president, Electrol Incorporated, with M. E. Simpson serving as alternate; H. Phillis, president the Pacific Oil Burner Association, with J. C. Johnson serving as alternate; C. U. Williams, president of the Williams Oil-O-Matic Company, with C. Muirhead serving as alternate and John S. Lord of Lord, Lloyd and Bissell serving as counsel for the Code Authority; Professor L. E. Seeley of Yale University, serving as technical consultant and H. W. Sweatt of the Minneapolis-Honeywell Regulator Company serving as industrial consultant.

After its organization meeting on September 28, the Code Authority held a second meeting on October 11 in Washington, when the following were appointed to serve on the finance committee: Messrs. Hammers, chairman, Sherman and Bohn. Messrs. Hammers, Finnie, Salway, L. E. Johnson and Bohn were appointed as members of the committee on incorporation, and Mr. Finnie was appointed chairman of the Standing Committee on Uniform Accounting.

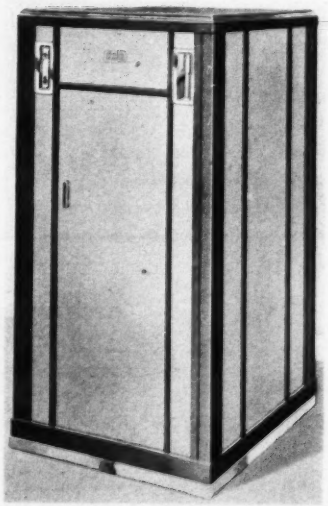
During the interim from the closing week of September to November 16, the Code Authority has called, or conducted by members of its own staff, 31 regional meetings for purposes of explaining and interpreting the code leading to effective and prompt operation under provisions of the code. It is planned that these regional meetings shall be continued and those called since November 1st include the following: Northern New Jersey Oil Heating Association at the Newark Athletic Club, Newark, N. J., on November 1; dealers in Passaic and Bergen Counties at Paterson, N. J., on November 6; Oil Heating Association of Brooklyn and Queens at the Highland park Y. M. C. A., Brooklyn, on November 8; Oil Heating Association of Long Island at the Elks Club in Hempstead, on November 13; Boston Oil Burner Associates at the Kenmore Hotel in Boston on November 14; Distillate Burner Manufacturers Association at the Bancroft Hotel in Worcester, Mass., on November 15, and the Executive Directors of the Dealer Division with the presidents and secretaries of Greater New York associations at the offices of the Oil Burner Code Authority on November 16.

Products FOR Dealers

This section gives a report of the latest news of automatic heat and air conditioning products. The ***general new products section*** *starts on page ninety-seven.*

An Oil Burner and Boiler Combination

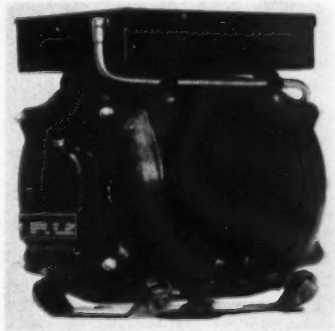
A recently announced oil burner and boiler combination is shown in the accompanying illustration. It consists of an oil burner installed in an especially designed boiler. The oil burner, boiler, domestic hot water system and control instruments are enclosed in a cabinet which is finished in two-tone baked green enamel and trimmed with stainless steel. The fire chamber of the boiler has been made oval in shape with the idea of securing the highest possible efficiency with the burner used. Extended fins have been placed on the boiler flues



to increase the heat absorption. A chromium steel flame-rim has been built into this equipment for use in establishing quickly the temperature at which oil is completely burned. In describing this feature, it is pointed out that since heat is required to vaporize oil before it can be burned completely, a rapid temperature rise is important during the warming-up period. Oil is fed to the burner by gravity from a constant level chamber and is controlled by dual-magnetic oil valves. The air and oil adjustments are set at the time of installation. The motor is of the capacitator type, 1/20 H. P., 110 Volts, 60 Cycle, A. C. This burner is made to utilize No. 1 or No. 2 furnace oil. Its normal rate is 11 lb. per operating hour. The boiler is of the vertical type made of cast iron. Its capacity is 750 sq. ft. of steam radiation or 1200 sq. ft. of hot water radiation. The equipment has been made to be completely automatic and includes the conventional controls, an automatic water feeder and a low-water shut-off. The Timken Silent Automatic Company, located at 100 Clark Ave., Detroit, Mich., is the manufacturer of the burner and the American Radiator Company, located at 40 W. 40th St., New York City, is the manufacturer of the boiler.

A Line of Capacitor Motors

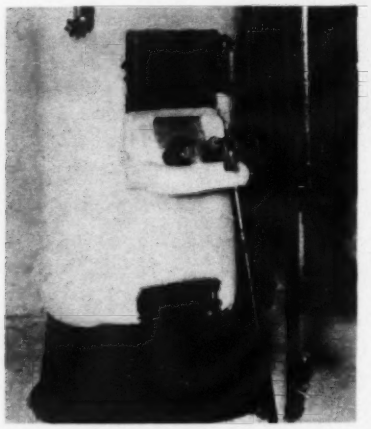
The line of capacitor motors which is represented by the unit shown in the accompanying illustration has been placed on the market for refrigeration service and other loads requiring similar motor performance. It is described as having high starting torque such as is obtained with repulsion start, induction motors. These motors are made to give high overload capacity, described as being in excess of 100 per cent. The motor is mounted on a spring and rubber base. Oil reservoirs which are



described as being unusually large, and wool-packed bearing assemblies provide lubrication. The condenser is described as being in use only at starting. The cut-out is of the snap break type. The direction of rotation of these motors is clock-wise. However, this is reversible through the proper reconnection of the leads provided for this purpose. The frames are interchangeable for A. C. or D. C. The condenser and outlet box ordinarily is mounted on the top of the motor but can be supplied separately if desired. These capacitor motors are available in sizes of ⅛ to ⅓ h. p. with resilient mountings and ⅛ to ½ h. p. with rigid mountings. The Emerson Electric Mfg. Co., of 2018 Washington Ave., St. Louis, Mo., is the maker.

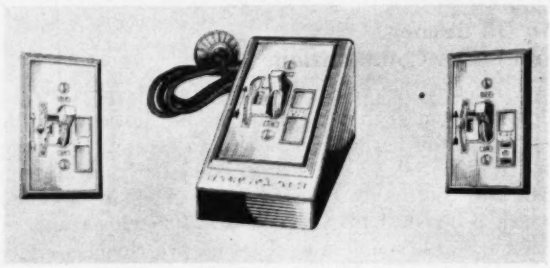
A Gas Fired Heating System

This gas fired heating system is described as being applicable to both small and large buildings. The system is designed so that in moderate weather a radiator temperature of as low as 100 deg. Fahr. can be produced and maintained while in cold weather, a high radiator temperature can be provided. Jarvies Gas & Oil Burner Co., 4022 Belleview Avenue, Kansas City, Missouri is the manufacturer.



An Automatic Time Switch

The basic purpose of the time switch which is shown here is to turn off and on, automatically, electrical energy which in turn may regulate and control products, processes, and operations. This equipment is made in different types for different purposes with time elements varying from a few seconds to 32 hours, depending upon the size. It finds an application for regulating, among other things, the operation of water heaters, washing machines, and similar appliances. M. H. Rhodes, Inc., American Industrial Bldg., Hartford, Conn., has placed this equipment on the market.



Unit for Cooling and Heating

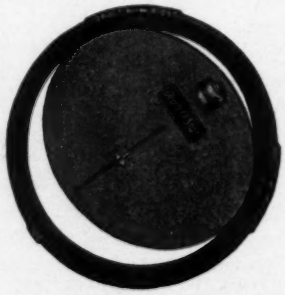
Announcement has been made of a new unit for either cooling or heating rooms. While it has been de-

10 REASONS WHY YOU SHOULD INSTALL

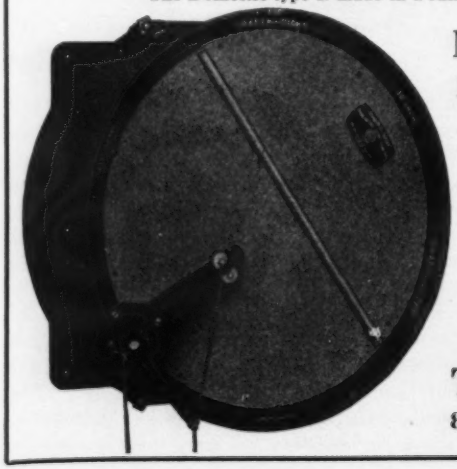
DRAFT-O-STAT

On 95% of the Gas, Oil and Coal-fired Furnaces

1. It controls drafts automatically.
2. Increases furnace or boiler efficiency.
3. Saves fuel—up to 25%.
4. Is THE QUALITY product.
5. Recommended by burner manufacturers.
6. Listed as Standard by Underwriters Laboratories.
7. Helps you sell your burners.
8. Has an unlimited market.
9. Is a wonderful profit maker.
10. Is handled by 2,000 dealers.



The Domestic type is made in a full range of sizes—from 6" to 20".



Now — An Exclusive Franchise!

For the NEW INDUSTRIAL "Draft-O-Stat"

After exhaustive laboratory tests and close checking of hundreds of actual installations, we now present the INDUSTRIAL "Draft-O-Stat," made in sizes 16" to 36".

These sizes are sold on a "Guaranteed Saving" basis through exclusive representatives, who can make a complete survey (including Draft and CO2 analysis) of the heating plant.

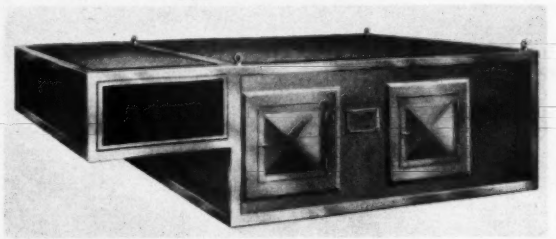
Heating contractors and engineers who are financially and technically equipped to handle these sizes can obtain exclusive franchises. Some good territories still open.

WHAT TERRITORY ARE YOU INTERESTED IN?

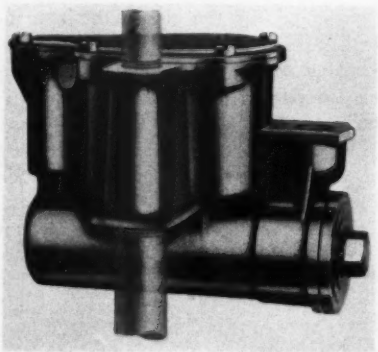
The HOTSTREAM HEATER COMPANY

8007 GRAND AVENUE CLEVELAND, OHIO

signed chiefly for restaurant and office uses, the unit is applicable to the requirements of stores, auditoriums, small theaters and the like. Two extended surface copper coils are provided. One is for steam or hot water for heating and the other is for cold water, brine, methyl chloride or freon for cooling. The heating coil can be omitted if desired. This equipment is made in three sizes, namely 2-, 4-, and 6-ton cooling capacities with a BTU. range of 24,000 to 72,000 per hour, average temperature drop of 28 deg. Fahr. Heating coils have BTU. range from 77,500 to 232,000 per hour. These units are fully enclosed so that no moving parts are visible. All of the piping connections are made at the back. The casing is made of insulating board material which is designed to be non-sweating and sound-absorbing. Metal trim is provided at angles and corners. The fans are of



the multiblade type and are driven by a V-belt. The equipment is designed so that it may be used in rooms where people are moving about. It requires 20 in. of head room. The Buffalo Forge Company, located at Buffalo, New York, is the manufacturer.



A Constant Level Valve

This constant level valve is designed for use in connection with gravity feed oil burners. It is made so that a constant pressure on the metering valve feeding the oil burner will be maintained irrespective of whether the tank is empty or full. A number of features listed for use are that it maintains an accurate head pressure or fuel level in the float bowl; it is ported to facilitate a straight pipe connection from the tank to the float valve and from the float valve to the burner, and that it is easily installed. It includes a screen of monel wire with 12 sq. in. of strainer area. The screen has been made so as to be removed easily for cleaning. Detroit Lubri-

MORE SALES
BIGGER PROFITS

LYNN

Range Oil Burners
offer you a complete line
at prices for all

LYNN AUTOMATIC De LUXE
The Rolls Royce of Automatic Oil Burners
LYNN De LUXE
The Last Word in Range Oil Burners
NEW LYNN LYPRO
Famous for Efficiency
LYNN JUNIOR
Built-in LYNN Quality

Power Burner Dealers wanted to market the new Lynn Line of Hotel and Restaurant Equipment

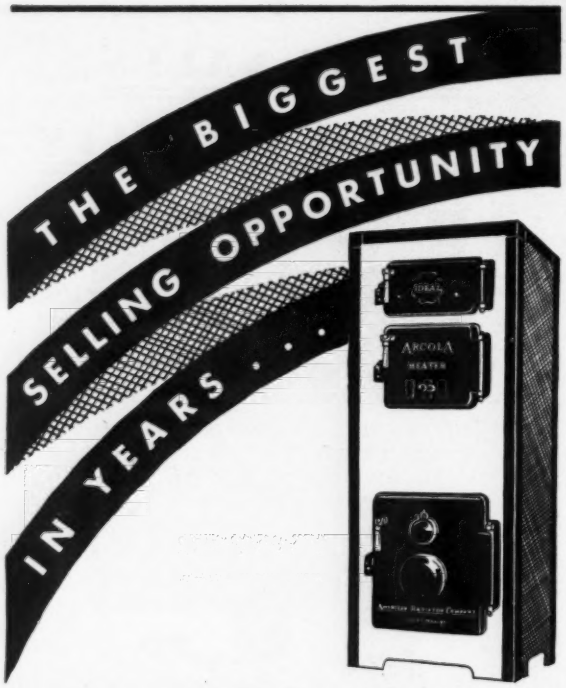
Lynn Products are Nationally known for their uniform high quality

FULL GUARANTEES ON ALL MODELS

A few valuable territories still open. Send for complete catalogue with dealer discounts.

LYNN PRODUCTS COMPANY
7-17 WILLOW STREET, LYNN, MASS.

NRA MEMBER U.S. WE DO OUR PART



ARCOLA

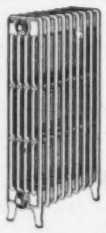
AMERICAN RADIATOR HEATING *for*

AS LOW AS $99.50 INCLUDING RADIATORS PLUS INSTALLATION

SMALL HOMES . . . STORES . . . GARAGES

THE New Arcola Radiator Heating Outfit—sold complete with radiators—as low as $99.50, PLUS INSTALLATION, opens a great new market for Heating Contractors, and offers the biggest selling opportunity in years. *Now you can sell radiator heating to even the smallest homes!*

Now every home, store, garage, school and small building is a prospect for you! Prepare to get your share of this new business! Write today for the complete selling plan to help you.

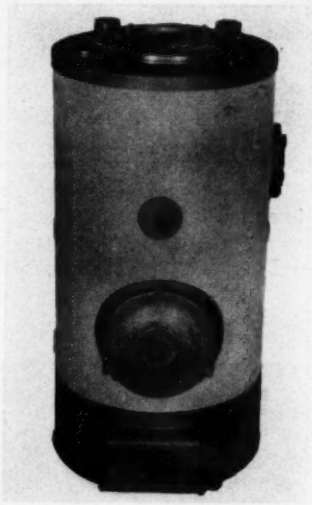


AMERICAN "CORTO" RADIATORS

are furnished in the required size and number as part of the Arcola Heating Outfit.

AMERICAN RADIATOR COMPANY
40 WEST 40th STREET, NEW YORK, N. Y.
Division of
AMERICAN RADIATOR & STANDARD SANITARY CORPORATION

cator Company, with main office and works at Trumbull, Lincoln, Marquette and Viaduct, Detroit, Michigan, is the manufacturer.



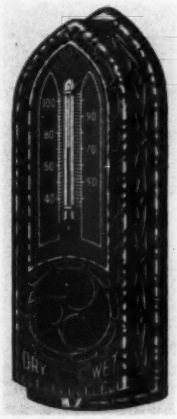
A New Boiler for Burning Oil

The boiler shown in the accompanying illustration has just recently been placed on the market for use in residences and other small buildings. It is of the steel tubular type and is made in two sizes namely 500 sq. ft. and 800 sq. ft. of steam radiation. These have respectively 27 in. and 33 in. outside diameters. The boiler has been designed on the down draft principle with vertical steel tubes and has been made suitable for rotary or gun type burners. Copper tubes also are available. A 16-in. fire door for access to the fire box and oil burner is included as well as a thick fire brick top cover for cleaning tubes and for inspection. A large removable submerged water heater is provided as standard equipment for tank and tubeless work. The Titusville Iron Works Company, of Titusville, Pennsylvania is the manufacturer.

Switch Has New Humidity Control

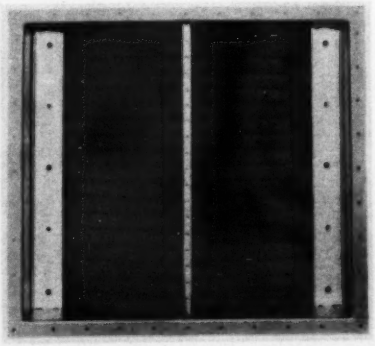
The humidity control switch which is illustrated here is intended for operating small fans, valves, etc. in domestic or commercial service. The control is housed in a walnut brown molded bakelite case and is equipped with a thermometer on the face of the cover. The element for operating this control has been produced by winding an especially prepared paper strip around a corrugated spiral. One end of the strip is adjustable by means of a small tension screw while the other end is fixed to the spiral. The free spiral end moves an armature to open and close an electrical circuit. A method of mounting the paper element has been employed to eliminate strain on it at high humidity or temperature. At low humidity or low temperature, the design has been made to prevent the instrument from being thrown out of calibration. If the calibration should be changed by

unusual conditions, it can be corrected by checking it with a standard humidity indicator and by adjusting it with a single screw. The electrical rating is as follows: Low voltage, 25 volts, 2 amps. 110-220 volts, 1½ amps. maximum voltage, 250. Penn Electric Switch Company, located at Des Moines, Iowa, is the manufacturer.



A Heating and Cooling Surface

The indirect heating surface shown here has been introduced for use in heating, ventilating, air conditioning and cooling systems. The so-called K-Fins composing the extended surface of this tubing are attached by a mechanical process which is designed to provide a continuous metal contact between the fins and the tubes.



This feature has been worked out to make the units suitable for high temperatures. An additional feature of the unit in general is the use of initially bowed tubes which accentuate their curvature on increases of temperature. Each tube is made free to expand and change its curvature independently of all other tubes without binding or interference. The units are made in a range of sizes and heights by Griscom-Russell Company, 285 Madison Avenue, New York, N. Y.

Oil Heater for Small Space

This oil heater which has been made for supplying heat in small places, just recently has been placed on the

BIG DIVIDENDS IN A LEAN YEAR!

In satisfaction to customers, in sales and profits to dealers, Century paid big dividends in '33. Throughout the entire year, the sales trend was up . . up . . UP!

Now that America is hitting its stride again, Century offers you an even greater opportunity in 1934 and the years to come. You can step into the big money . . sell more burners, spend less for service, and have the backing of one of the strongest organizations in the industry.

Because of quantity production and mass market selling, Century Burners are priced lower . . without sacrifice of dealer discounts . . without sacrifice of quality.

If you want to make more sales and more money in 1934, write today for Century's money-making dealer franchise. CENTURY ENGINEERING CORP., Dept. D-12, CEDAR RAPIDS, IOWA.

CENTURY OIL BURNER Floating Flame

Over A MILLION

EXCELSO

QUALITY WATER HEATERS

HAVE BEEN SOLD

Ample Proof of Quality and Service

EXCELSO PRODUCTS CORP.

57 Clyde Avenue Buffalo, N. Y.

or

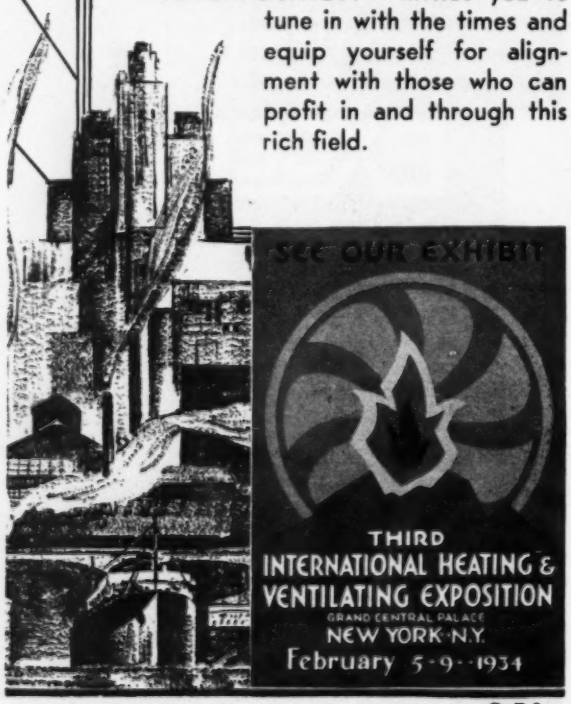
Ask Your Jobber

"HITHERTOS" *are passing out*

Throughout industry "hithertos" are dying fast. Precedent, nowadays, is more handicap than help. Above all is this true in the heating, ventilating, air conditioning profession, industry and trade.

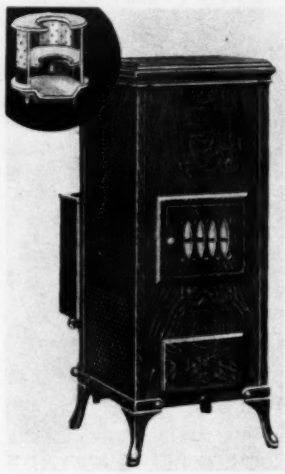
Changes during the past two years have been phenomenal. Methods new a year ago are already obsolete. New equipment, appliances, methods, materials, accessories, tools, instruments and supplies are revolutionizing the field and opening unmeasured opportunities for those who keep up to date.

A panorama of progress—an Exposition at which you can view, examine, question and compare—the INTERNATIONAL HEATING & VENTILATING EXPOSITION — invites you to tune in with the times and equip yourself for alignment with those who can profit in and through this rich field.



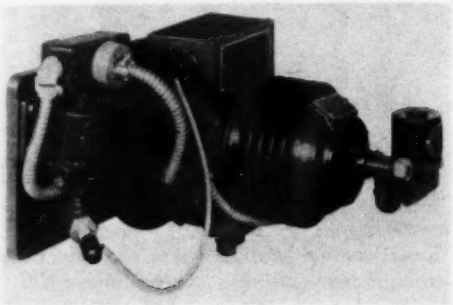
B8

market as an improvement in a former line of circulating heaters. In the accompanying illustration, the insert shows what is described as the dual-chamber. This double chamber construction has been designed to permit a wide heating range, the idea being to make one model adaptable to all practical requirements. The cabinets are finished in walnut grain porcelain enamel. Motor Wheel Corporation, located at Lansing, Michigan, is the manufacturer.



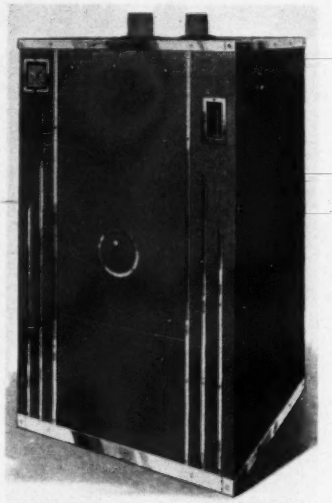
Three New Burners Announced

A line of three new oil burners has just been announced, two of which are listed as fully automatic and one as being manually controlled. These burners are basically identical with a standard production of large automatic burners, the largest one of which is capable of handling a 250 h. p. boiler. However, they are smaller



in size and have certain developments and refinements designed to adapt them for their special purposes. They are made to meet the heating requirements of the average home having five to ten rooms. The burner of this series having manual control is for small ovens, furnace ranges and other commercial and industrial equipment where the manufactured standard size burner is too large. These small size burners are mounted on rubber for quietness and are insulated from the boilers they serve, against heat or vibration transfer. The oil supply

is introduced through a hollow hinge. This construction permits swinging the burner away from the boiler without breaking the connections. The burner which has manual control has a manually reset combustion safety system which interlocks the oil supply with the electrical supply and with the mechanical functioning of the burner. The burner which has straight electric ignition is equipped with a two speed induction type motor which is designed to give a rich mixture for positive starting and a lean mixture for economical running. Also, it has a low voltage, intermittent, hot wire type igniter which operates at 15 volts. Another feature built into this burner is an automatic recycling control with a safety lock-out feature. The accompanying illustration shows the fully automatic burner which is equipped with gas electric ignition. The Ray Burner Company, with main offices at 401 Bernal Ave., San Francisco, Calif., is the manufacturer.

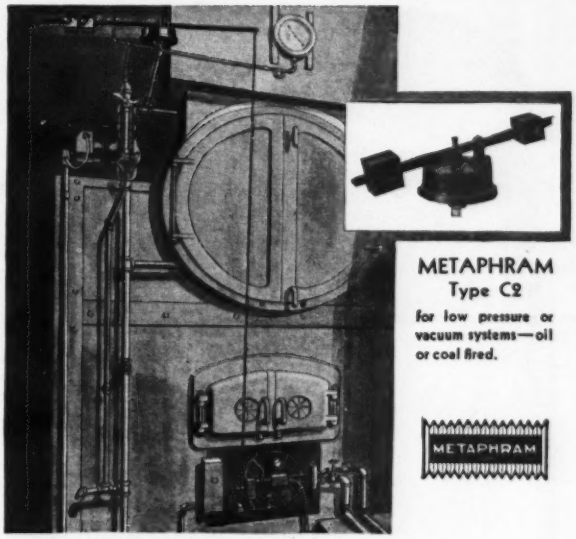


An Oil Burning Boiler

A boiler which has been placed on the market for the purpose of burning oil exclusively is shown in the accompanying illustration. A staggered fire travel principle which is designed to force the flames and the hot gases through five staggered passages has been employed. Another feature of this unit is the provision for the installation of an internal hot water heater to provide hot water in winter and summer with the same burners. This equipment is made in two series. One as a modern square jacket with a tropical green crystalline finish, and four-ply asbestos insulation on four sides and the top. The second series is finished in pearl grey and has eight-ply insulation. In this model, all parts, gauges, etc. are contained within the jacket. The Thatcher Company, located at 39 St. Francis Street, Newark, N. J., is the manufacturer.

Line of Drip Proof Motors

A new complete line of splash and drip proof motors and control for every machine requirement, just recently



METAPHRAM Gradual Control
covers the entire range of domestic hot water and low pressure boilers and tank heaters, either gas, oil or coal fired.

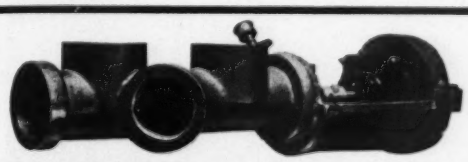
Descriptive Bulletins on Request

NATIONAL REGULATOR CO.
2317 KNOX AVENUE CHICAGO

DOUBLE CIRCULATOR
Will Produce
POSITIVE CIRCULATION
for
INDIRECT DOMESTIC WATER-HEATERS

You accomplish two circulations with one small motor; one circulation of boiler-water through water-heater and other domestic water from storage tank through heater. Thereby storage tank can be below heater. An aquastat can be placed in storage tank for starting and stopping motor, making an automatic controlled temperature of domestic water.

JOHANSON WATER HEATER CO.
1239 FULLERTON AVE., CHICAGO, ILL.



The double circulator consists of two propellers with a propeller wheel in each chamber, both being operated from one motor.

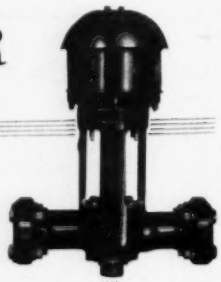
Circulates building return water and boiler water that passes through the indirect water heater.

DO YOUR CUSTOMERS & RADIATORS HISS-SS TOGETHER?

Don't take any chances—use B & J vapor heating systems and give your clients quiet, even, economical heat. Barnes & Jones equipment gives long, satisfactory service and reflects favorably on the reputation of those who specify or install it. Write for latest catalog.

BARNES & JONES *Inc. 128 Brookside Ave.*
JAMAICA PLAIN, MASS.

The HYDROLATOR

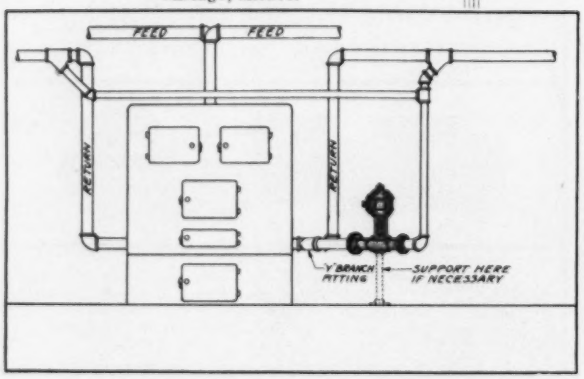


Forced Hot Water Circulation Means
1. Lower Fuel Costs
2. Quicker Heat
3. Uniform Heat

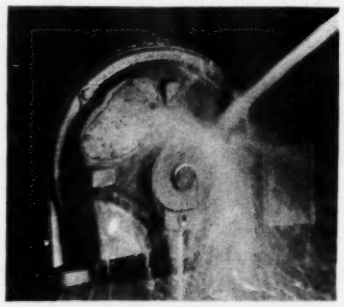
This unbelievably quiet circulation pump often saves its cost to the home owner during the first winter. Build your reputation as a "doctor" of "sick" hot water jobs with the HYDROLATOR.

Write for Bulletin 233-H

JANETTE MANUFACTURING CO.
560-62 West Monroe Street
Chicago, Illinois



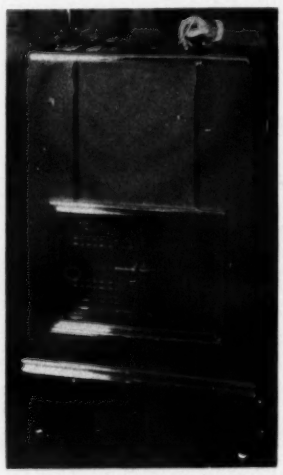
has been announced. This equipment is especially suited to the requirements of machines where splashing occurs in such places as dairies, meat packing plants, canneries, breweries, paper mills, boiler rooms, coal yards, sand and gravel plants and wet grinding processes plants. The interior of this line of motors is protected by covers and baffles to prevent the entrance of water when machines and floors are being washed with a hose stream. The



conduit connections are protected from splashing and dripping liquids. The conduit box can be obtained for either right or left hand connection. It is designed to provide liberal wiring space. Westinghouse Electric & Manufacturing Company, East Pittsburgh, Pennsylvania is the manufacturer.

A Room Heater Which Burns Oil

The equipment shown in the accompanying illustration has been placed on the market as a home heating unit. It burns oil as a fuel and operates on the vaporiz-



ing principle. Burner shells which are described as being special and non-warping are included in the design. The unit is made so that heat can be maintained at any temperature. Distillate or kerosene oil is burned and if desired, the heater can be connected to an outside storage tank. It is finished in brown walnut crystallized and baked-on enamel. Trimmings are chromium-plated and the grilles and doors are porcelain-enameled. The

fuel tank is concealed. This equipment is manufactured by the American Gas Machine Company, located at Albert Lea, Minn.

Electricity—

(Continued from page 47)

example, what makes an incandescent lamp filament white hot is the current forcing its way through the lamp's high resistance, which is about 260 ohms for a 50 watt lamp. Most forms of electric heaters work on the same principle.

Direct and Alternating Current. The sort of electricity formerly used was "Direct Current," which flows constantly in one direction, like a stream of water. Such current is very expensive to distribute over any considerable distance, and forty-odd years ago, Westinghouse introduced the *Alternating Current,* which can be

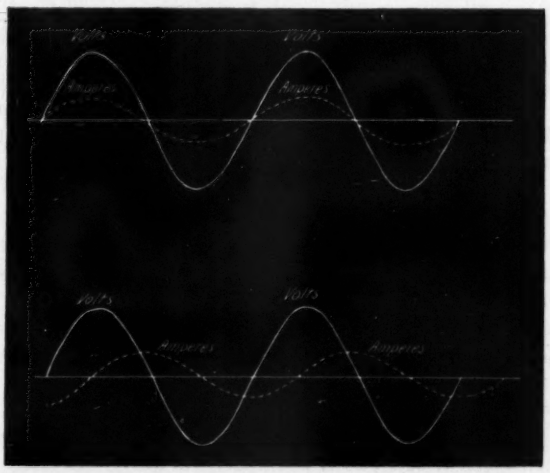


Fig. 9—When alternating current volts and amperes are "in step" their power is a maximum. (Power factor 100 per cent). See top curves. Much less power is produced by the same volts and amperes when they are not "in step." The power factor shown in the lower curves is zero, no power being produced

transmitted hundreds of miles and used for any purpose. It is now almost universal—direct current supply for lights and stationary power is now found only in the central parts of large cities, and in big buildings which make their own electricity.

Alternating Current, instead of flowing constantly in one direction, reverses its direction of flow 120 times every second. A similar effect would be produced in a two pipe water system connected to a piston pump without valves, each pipe being connected to one of the ends of the cylinder directly. At every stroke of the pump, the direction of water flow in the pipes would reverse.

Of course, both the pressure (volts) and the current (amperes) of an alternating current vary from zero to a maximum 120 times a second, but the instruments which indicate them (voltmeters and ammeters) are made so as to read the "effective" value.

Single Phase and Three Phase. The original kind of

NRA WE DO OUR PART

HI-TEMP
ONE PIECE WATER COIL

REAL PROFITS
for
AUTOMATIC HEAT
DEALERS

Greater hot water supply
Faster flow
Longer life
Most economical

These are the features of the HI-TEMP Hot Water Coil that are most interesting to your customers. These are the features that enable you to sell the HI-TEMP almost on sight.

Save money for your customers. Build up more business for yourself. Install HI-TEMP in conjunction with instantaneous storage heaters which will save customers as much as seven months gas bill, because as long as there is a furnace fire, there is abundant hot water supply without the use of gas.

Write for literature and prices. Also, territory open for representatives.

PRODUCTION PLATING WORKS, INC.
LEBANON, OHIO

This ELECTRIC JANITOR
DEMONSTRATING DISPLAY
WILL BUILD SALES

■ THIS completely equipped display and demonstrating stand, ready for mounting your Electric Janitor, either model, is supplied without cost with orders for 8 or more Electric Janitors, Minneapolis-Honeywell's lowest priced regulator for all domestic coal, coke or similarly fired heating plants. Order through your jobber or write for further information. Minneapolis-Honeywell Regulator Company, 2801 Fourth Avenue South, Minneapolis, Minnesota. Branch and distributing offices in all principal cities.

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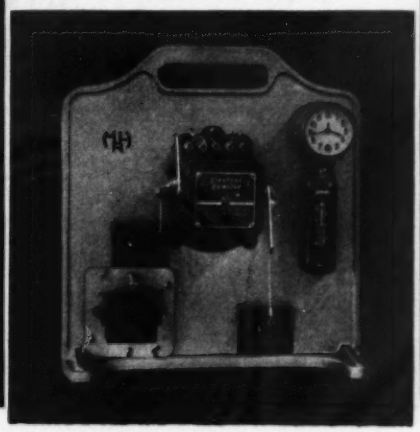
MINNEAPOLIS-HONEYWELL
Control Systems



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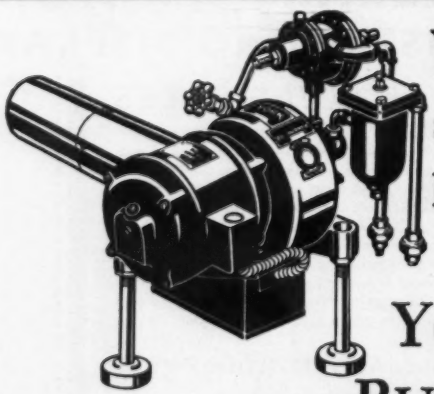


YOU should handle the YORK BURNER

In spite of rising prices York still offers a splendid automatic, complete high pressure burner with electric ignition and controls for less than a hundred dollars. This machine has sufficient capacity to handle eighty per cent of installations.

It comes as a result of our fourteen years in domestic oil burner building, since 1897 in the industrial field, a guaranteed product made by the oldest and largest builder of domestic high pressure burners.

This is only one of the outstanding models York offers. There are burners of every type, industrial and domestic, a complete line of horizontal rotary heavy oil burners, burner boiler combinations. In short you need lose no sales in handling the York complete line.

It will pay you to deal with one responsible company, to receive one guarantee from one company instead of dealing with many. It will pay you to learn all about the York line. We will be pleased to send information or have an engineer call and tell you about York equipment.

YORK OIL BURNER COMPANY, Inc.
YORK, PA.

alternating current, using but two wires, is satisfactory for lighting and heating, but is not very good for motors of much power. Motors made for such simple, or "single-phase" currents, are like an automobile engine—they will not start from standstill without the help of some added devices and complications. Without such aids, a single-phase motor acts a little like a steam engine "on dead center." However, if it were possible to give the "engine" two or three cylinders, set at different angles, it would always start promptly and strongly. An equivalent result was gained, in the case of the alternating current motor, by supplying it with two or three different alternating currents, timed successively. At first, two different currents were used, each with its own pair of wires. Later it was found that three different currents could be supplied over only three wires, used in partnership, and such "three-phase" current supply is now almost universal wherever any considerable amount of power is needed. Except where the motors are quite small it is customary to use three-phase motors, as being simpler, cheaper, smaller, and more reliable than either direct current or single phase motors. However, in homes and other places where not much power is used, it is customary to find that only single-phase is available, and for such places single-phase motors are usual.

Power. Out West, there are waterfalls with heads a thousand feet high. It takes only a trickle of water, at such tremendous pressure, to develop as much power as a whole river going over a dam only a few feet high. Power, in both cases, is the *pressure, or head, times the quantity of flow.* With electricity, it is the same—the power of a current is the pressure times the quantity of flow; *volts times amperes,* at any given instant.

Power of waterfalls is figured in Horsepower. Power of electric current is figured in *Watts* and *Kilowatts.* A watt is the power of a one-ampere current, with a pressure of one volt. As this is a very small power (it takes 746 watts to make one horsepower), it is customary to use instead the Kilowatt, which is 1,000 watts, and equals about 1⅓ horsepower.

In Direct Current, figuring the power is very simple: multiply the current in one wire, by the voltage between the two wires, and divide by 1,000; that is the power in kilowatts.

In *Single Phase Alternating Current,* it is not quite so easy. The power of the circuit *at any instant* is the product of the volts and amperes *at that instant,* all right; but if you multiply the effective volts shown on the voltmeter, by the effective amperes on the ammeter, it may not represent the effective power at all. For the voltage (pressure) and amperes (current flow) may be, and usually are, out of step with each other. When one is high, the other may be zero and vice versa. Or it is even possible that at some moments the pressure and current flow may be opposing each other, in which case their power is reversed in direction; negative. While it is not an exact comparison, just think of two horses pulling in a series of jerks. If the jerks are exactly timed together, the wagon moves along, and you have the full benefit of both horses. But if the team does not move together, one horse may tug just as the other horse lets go, and all that happens is a see-sawing of the single-tree. It is not usually as bad as that, but it is very common for the actual power of a single-phase circuit to be only 80% to

85% of the volts times the amperes. This factor, or percentage, is called the *Power Factor*. In such cases, the figure obtained by multiplying volts and amperes is called, not watts, but "volt-amperes," or if divided by 1,000, it is called "Kilo-volt-amperes."

Thus, *for Direct Current,*

$$\text{Power in kilowatts} = \frac{\text{Volts times amperes}}{1{,}000}$$

While *for Single Phase Alternating Current*

$$\text{Power in kilowatts} = \frac{\text{volts times amperes times power factor}}{1{,}000}$$

This power factor depends on the conditions in the circuit; it is not always the same even for the same circuit. Consequently, while the power of a direct current circuit can be learned with a voltmeter and an ammeter, to get the power of an alternating current circuit, you must use another instrument, called a *Wattmeter,* or else watch the speed of the "house meter" (watt-hour meter) which is provided for every customer, to determine his monthly bill. The speed of its disc is an accurate measure of the power it is carrying at any instant.

Three Phase Power is complicated a trifle further. The three alternating currents, working in partnership, and using the three wires jointly, require an additional correction factor in figuring their power. Luckily, this is not something that must be guessed or measured: it is a constant, the square root of three, or 1.73. Thus, for three phase, and considering the current in any one wire, and the voltage between any pair of wires,

$$\text{Power in kilowatts} = \frac{\text{volts times amperes, times power factor, times 1.73}}{1{,}000.}$$

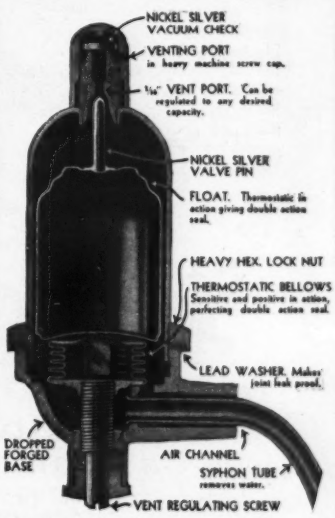
Ampere-Hours. Storage batteries, and other chemical batteries, such as those used in electro-plating, are concerned not so much with the power that is taken from them or put into them, as the total amount of current. This is measured in ampere-hours, an ampere-hour being the equivalent of a one-ampere current flowing for one hour; a half-ampere for two hours, etc. There are devices called ampere-hour meters made to measure this value. They are very commonly used about storage batteries of any considerable size.

Kilowatt-Hours. What customers and users of electricity have to pay for is usually the amount of power they use, times the time they use it. This is measured in Kilowatt-Hours. A kilowatt-hour is the use of one kilowatt for one hour, one-tenth of a kilowatt for ten hours, and so forth. The meter customarily provided by electric power companies to measure their customers' bills is a "watthour meter" really a kilowatt-hour meter. The speed of its disc can be used to indicate the amount of power being used at any particular time, as mentioned above.

Although there are many other units of measurement in electricity, the ones outlined above are probably the ones most likely to be met with in domestic engineering. Farads and Micro-farads figure largely in radio sets; Gilberts and Maxwells concern the designer, Joules and Mhos and Coulombs do not wander far afield.

BALANCED RADIATION

WITH VENT-RITE valves it is now possible to effect a *properly balanced* condition in any heating system requiring air valves. VENT-RITE radiator valves employ an entirely new principle which makes them superior in operation to any other type. By means of an adjustable venting device each valve can be set *to control the desired radiation wanted in the room in which it is installed.* This device is fool-proof — easy for the heating contractor to install, regulate and service. VENT-RITE valves are precision made, ornamental in design, beautifully finished in chrome.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VENTING PORT in heavy machine screw cap.
1/16" VENT PORT. Can be regulated to any desired capacity.
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FLOAT. Thermostatic in action giving double action seal.
HEAVY HEX. LOCK NUT
THERMOSTATIC BELLOWS Sensitive and positive in action, perfecting double action seal.
LEAD WASHER. Makes joint leak proof.
DROPPED FORGED BASE
AIR CHANNEL
SYPHON TUBE removes water.
VENT REGULATING SCREW

Write us TODAY for complete information.

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VENT·RITE
(CONTROLLED VENTING)
RADIATOR AIR VALVES

ONE WAYNE S-4 BURNER to care for any size Domestic Heating Plant!

HERE *is a real contribution* to the oil burner industry, which dealers will particularly appreciate. *Just one model*—the type S-4—will take care of any domestic job from 350 square feet to 3500 square feet of steam radiation. Think of it! You can eliminate all other sizes, cut down your floor stock and *build up your profit accordingly.* Just one burner to sell and a burner you can do a real job with. *Write for bulletin and details of the Wayne sales building plan.*

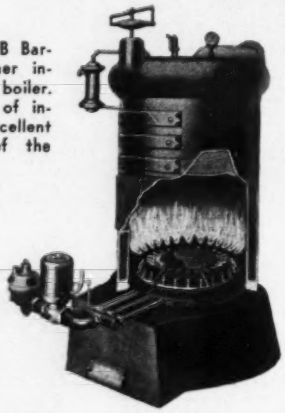
Wayne Oil Burner Corporation
602 Glasgow Ave. *Fort Wayne, Ind.*

★ WAYNE MODEL S4

WAYNE

BARBER
Automatic Jet Gas
BURNERS

Illustrating No. 324-B Barber Automatic Burner installed in a round boiler. Note its simplicity of installation and the excellent scrubbing action of the flame.



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Write us today for our NEW CATALOG and NEW attractive DISCOUNTS. Let us tell you how we assist the Dealer with literature and co-operation that will enable you to capitalize on the demand for BARBER Automatic Heat.

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Chicago, Ill.—1111 East 83rd St.
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Milwaukee, Wis.—511 Mason St.
New York, N. Y.—55 W. 42nd St.
Philadelphia, Pa.—2124 Arch St.
Pittsburgh, Pa.—1511 Investment Bldg.
Richmond, Va.—3032 Norfolk St.
Washington, D. C.—2205 5th St. N. E.

Sales Helps

Circulars from Combustioneer, Inc.

Combustioneer, Inc., of Springfield, Ohio, is distributing two new circulars featuring its stokers. One of these circulars, No. 893, describes and illustrates its stoker for burning anthracite coal and is made in three sizes, each with light and heavy feeds. The other circular, No. 894, is designed for burning bituminous coals and is made in two sizes, each with light and heavy feeds.

Circular Describes Stokers

The Frederick Iron & Steel Company of Frederick, Md., has issued an attractive four-page circular describing and illustrating its line of stokers for heating homes, large and small, city, county or suburban, as well as for apartment houses, schools, hospitals, and other institutions. The circular stresses the following points concerning these stokers: "They are economical, clean, convenient, dependable and automatic."

Bulletins Announce New Ventilators

Victor Electric Products, Inc., of Cincinnati, Ohio, has issued two bulletins announcing a new line of built-in ventilators. These ventilators are described and illustrated in minute detail, and specifications and installation instructions are also included. One of these bulletins states that "these ventilators will keep homes free of offensive odors, provide a constant supply of healthy, fresh, pure air, and lower cleaning bills by removing grease and grime."

Bulletin on Temperature Comfort for Homes

The Insulation Division of Standard Lime & Stone Company of Baltimore, Md., has issued a bulletin describing how it is possible to keep a home uniformly heated in winter and 8 to 15 degrees cooler in summer, by insulation. The bulletin states: "No rooms hard to heat are found in a modern insulated house. The north side is as warm as the south side, and the upstairs rooms are as comfortable as the lower ones. The closed parts of the house remain warmer overnight and the bedrooms are readily warmed up in the morning on closing the windows and turning on the heat. In summer, insulation, particularly on the roof of the house, prevents the heat of the sun's rays from penetrating to the interior and permits the maintenance of an indoor temperature from 8 degrees to 15 degrees cooler than outside." The insulating medium advocated in this bulletin is rock wool, which can be used in houses already built as well as in the construction of new buildings.

Catalog of Pressure Regulators and Relief Valves

Pittsburgh Equitable Meter Co. of Pittsburgh, Pa., is distributing a catalog with illustrations and descriptions of its pressure regulators, relief valves, strainers and hot water heat control system. Water pressure control has been a problem confronting plumbing and heating engineers since the beginning of these industries, and pressure control is practiced on jobs from the smallest home to the largest skyscraper although the matter of

application varies widely. The importance of water pressure relief valves cannot be overestimated. The many installations of automatic and water storage heaters has strengthened existing needs for safety equipment. Heating with hot water has been encouraged through the installation of closed or pressure system. Automatic control, reduced operating costs and safety can only be obtained by installing dependable hot water heat control. The products featured in this catalog have been designed to meet the demand for such devices.

New Catalog of Fans

International Engineering, Inc., of Dayton, Ohio, has issued an eight-page catalog, 8½x11 in. in size, listing its line of fans, including square frame fans with aluminum frames or all steel frames, silent fans with round frames or square frames with shutters attached, multiblade fans and cooling fans. The cooling fans can be fitted for post or wall mounting, and can be fitted with either a two or three speed motor instead of standard single speed, where conditions warrant it.

Folder Explains New Way to Rate Boiler Efficiency

"A New Way to Rate Boiler Efficiency" is the title of a distinctive two-colored illustrated folder which has just been issued by the Spencer Heater Company of Williamsport, Pa., a division of the Cord Corporation. The folder emphasizes the importance of sales efficiency of boilers as well as heating efficiency.

Sells Ten Every Month—

(Continued from Page 49)

of customers to whom the prospect may refer for evidence of owner satisfaction.

In the basement of his building he displays to the prospect a stoker in actual operation. This unit is kept neat and clean at all times. This installation serves a dual purpose. New salesmen are taught every detail regarding its operation by seeing it in use, and they are also encouraged to bring their prospects to the store for actual demonstration.

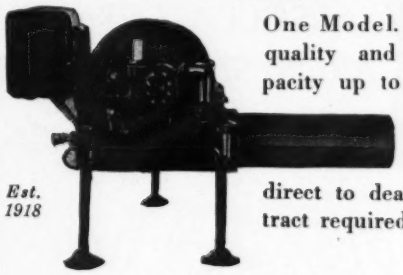
"Do you check heating plants before you will install a stoker?" he was asked.

"No," he replied, "we have a different method that has worked better for us. Instead of discouraging the sale of a stoker by advising the home owner that he will have to spend considerable money for additional radiation or other changes, we ask for information regarding the temperature conditions in each room of the house. If he advises that conditions have not been satisfactory in a certain room or rooms we will tell him that we will not guarantee stoker operation to remedy that condition if it is due to lack of radiation.

"While we have installed stokers in a number of homes where certain rooms received insufficient heat under the old method, this condition was remedied as soon as automatic heat was used in those homes. Nevertheless, we make it quite plain to the home owner that the stoker cannot be expected to cover the defects of an improperly designed heating system. In this manner we anticipate complaints before they arise."

The Fairfield Oil Burner

NRA Member



Est. 1918

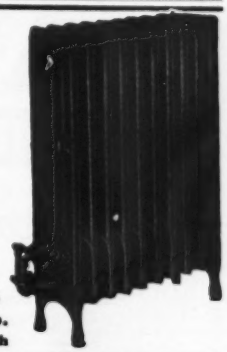
One Model. Featuring quality and flexible capacity up to 3000′ steam radiation. Lowest price. Sold direct to dealer—No contract required.

NRA

Greenwich, Conn.

AUTOMATIC GAS-STEAM RADIATORS

Modern heating equipment, meeting present day demands, approved by the American Gas Association Testing Laboratories. Can be used as part of the regular plant in heating season, or as a separate heating unit in unseasonal weather. Its biggest selling features are economy of operation and ease of installation. Write for information.



Automatic Gas-Steam Radiator Co.
Brushton and Thomas Sts., Pittsburgh

For Household Water Service

No. 23 WATER PRESSURE REGULATOR for household water service, made of high-grade bronze composition castings. Diaphragms of new live rubber, not affected by continued shocks and flexures to which it is constantly subjected. Shuts positively tight against dead end, and will not allow the pressure to build up when no water is being used. Retards water hammer and is noiseless in action.

WATTS REGULATOR CO.
249 Lowell St., Lawrence, Mass.
JOHN G. KELLY, INC., *Distributor*
210 E. 45th Street, New York City

FOR LOW COST HEATING

B. & G. CIRCULATION BOOSTER

Speed up sluggish circulation with a B & G —save 15 to 30% of annual fuel costs.

Absolutely noiseless —motor cradled in rubber. Centri-force impeller. Non-breakable universal joint.

Supplies required heat instantly to every radiator regardless of long pipe runs. Reduces radiation loss. Thermostatically controlled, electric operation. Easily installed in old or new hot water heating systems or large volume domestic hot water installations. Write for information.

BELL and GOSSETT COMPANY
3000 Wallace St. Chicago

SELL DEPENDABLE REGULATORS— AVOID SERVICE CALLS

The Model 100 Set meets present day requirements for positive accurate control. Write for details.

AUTOMATIC PRODUCTS COMPANY
121 NORTH BROADWAY, MILWAUKEE

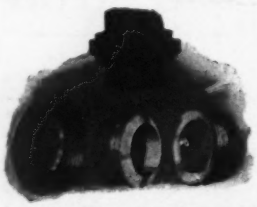
Ask for data on

CONVECTOFIN
THE BUILT-IN HEATER

The first Built-In Heater to give
CERTIFIED PERFORMANCE

Commodore Heaters Corp.
11 W. 42nd St. New York

Here's the inside story—



There's an inside story to nearly everything, and the Two Bronze Seats are Dart's inside story.

These Two Bronze Seats, accurately machined and ground give double protection to the joint—assure a leak-proof, non-corrosive installation and will be your reason for specifying Darts always.

E. M. DART MANUFACTURING CO.
Providence, Rhode Island

Sales Agents: The Fairbanks Co., New York Branches. Canadian Factory: Dart Union Co., Ltd., Toronto, Can.

Make PROFITS on Remodeling

THE KAINER PRESSURE GOVERNOR

Accurate
Simple
Safe

Automatic Control for Hot Water Heating Systems

Write today for prices and Bulletin 32-B

A. S. M. E. Approved

KAINER & COMPANY CHICAGO
761-771 MATHER STREET

Automatic Awnings Foreseen

Awnings that are automatically lowered or raised by means of photoelectric control, as the sun shines or is screened by the clouds, were visualized by J. J. Donovan, manager of the air conditioning department of the General Electric Company, in a recent talk before the Tent and Awning Manufacturers' Association. Based on the results of tests already conducted in the G. E. air-conditioning proving home in Schenectady, Mr. Donovan emphasized the importance of awnings to aid in cooling houses and buildings during the summer. It is estimated that awnings on all windows of an air-conditioned house will cut the cost of summer air-conditioning from 16 to 20 per cent.

Big Crowds Pass Your Store Windows

John H. Knapp, vice president in charge of sales of the Norge Corporation, refrigerator manufacturer, points out that "store windows are more than places at either side of the doorway; they make the doorway attractive from the profit standpoint. Window space represents anywhere from 20 per cent to 50 per cent of a store's total rent. It is estimated that in a town of 1,000 inhabitants, 178 people pass each well located window; in a town of 50,000, 8,900 folks pass to and fro each day. That is a lot of circulation. Here is a chance to reach and win prospects at the most crucial point of all—right where they can see, handle and buy the merchandise."

College Course in Air Conditioning Has Been Started in Cleveland

Fenn College in Cleveland, Ohio, now has a course in air conditioning extending over two semesters of five months each. The first semester deals primarily with fundamental characteristics, definitions and modern developments. The second semester is primarily a problem course—built upon the foundation laid in the first term. Problems are taken from actual conditions as observed by the student and instructor. The main topics covered are: Heating, cooling, humidifying, dehumidifying, ventilation, and air filtering.

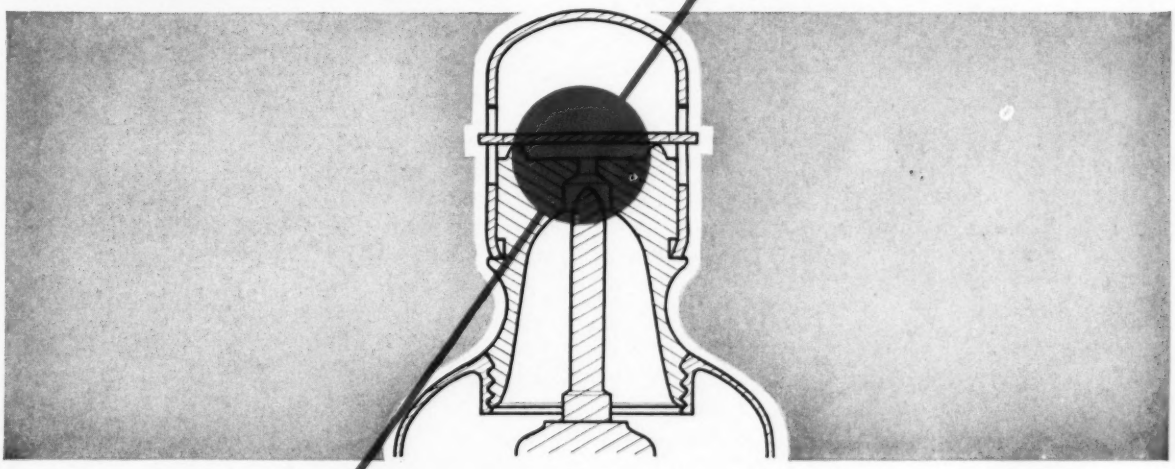
University of California Offers Extension Course in Air Conditioning

Popular demand for instruction in air conditioning has led to the decision by the University of California Extension Division to include in its list of courses regular classroom work on this subject. The course will include the processes of air conditioning with particular emphasis on the fundamental principles involved, air conditioning problems associated with the home and small shop or store, and discussion of the geographic as well as the economic and mechanical factors which influence the performance of typical conditioning equipment.

Two night classes have been opened, one in San Francisco at 540 Powell street, which meets on Monday evenings, the other in Oakland at 1730 Franklin street on Wednesday evenings. R. G. Minarik, instructor in mechanical engineering at the University, is conducting the classes.

the answer

TO CLAIMS ABOUT "*FASTER* VENTING"



Hoffman Vent Ports are sized to allow maximum venting speed without incurring trouble

Be a little skeptical about "fast venting" claims. True enough, venting speed theoretically depends upon port area. Ports may be easily enlarged—but what follows *excessive* port enlargement?

The speedy rush of steam through the supply valve, due to fast venting, interferes with the outflow of condensate from the radiator. The water is pushed back. Radiators become waterlogged and surging in the radiator closes the air valve intermittently. Venting becomes slower after all.

In all Hoffman Venting Valves, both air and vacuum, the vent port has been accurately proportioned to give maximum venting speed without the above disadvantage. This is one reason why Hoffman Valves are so successful on Oil or Gas-Fired Systems.

Be skeptical, too, about "vacuum" claims. Any engineer will tell you that a valve with a *single* check against incoming air cannot operate with complete efficiency. If it is a simple air check, it is subject to leakage. If it is a device employing atmospheric pressure, it is bound to admit air, in the case of a partially heated radiator, until a sufficient vacuum builds up in the system to force it into action.

That is why Hoffman employs the Double Air Lock, a patented exclusive feature. In the case of a partially heated radiator mentioned above, the *vacuum check* closes the vent port until a slight vacuum forms in the system. Then atmospheric pressure raises the *vacuum diaphragm*, lifting the valve pin and sealing the port tightly. At no time can air enter the valve.

Send the coupon for Hoffman's new illustrated bulletin—it will show you the reasons for Hoffman Venting Valve superiority.

HOFFMAN SPECIALTY CO., Inc., Dept. RX-93
Waterbury, Conn.
Send me the facts about Hoffman Venting Valves ☐
Show me the Hoffman "Vacuum" and "Spitless" Tests ☐

Name.....

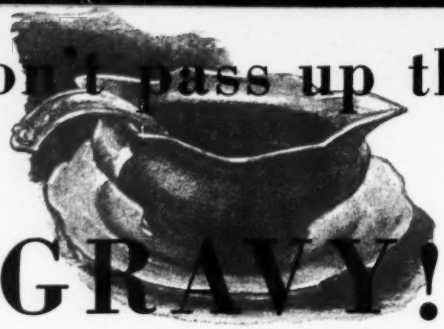
Address.....

City.....*State*.....

HOFFMAN SPECIALTY CO., INC.

WATERBURY, CONN.

Don't pass up the GRAVY!



that goes with every automatic job old or new

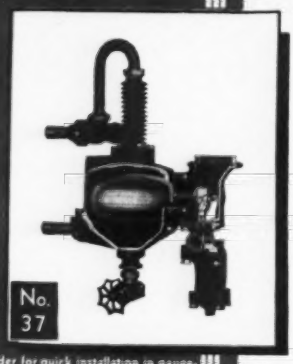
Opportunity isn't merely knocking this fall—it's threatening to break down your door and walk in! Advertising is telling people that they can "fire their boiler from their easy chair"—that they can practically lock the basement door and throw the key away.

It's a powerful sales argument—an appeal that is selling oil-burners, stokers, and gas-burners on a wide front—but every automatic heat dealer or heating contractor knows that it can bring a kick-back unless the boiler water line is made as automatic as the firing!

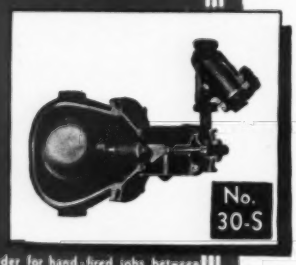
With people thinking in terms of automatic heat it is now a simple matter to show them why automatic water level control is an essential part of every automatically fired plant, old or new. The ideal protection is the combined safety feeder and low-water switch combinations, (No. 37-35, No. 30-S-31, and No. 30-L-31) described at the right. But if the owner is not willing to pay the price of completely automatic water level control, the No. 48 or No. 60 will protect the boiler from low-water damage at minimum cost.

These water level control installations are the extra profit—the gravy—in every automatic job. Go after them while the going is good, but don't overlook the hand-fired jobs and the McDonnell Safety Feeders for them as illustrated at the left.

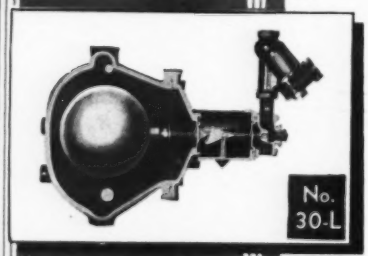
For HAND-FIRED JOBS



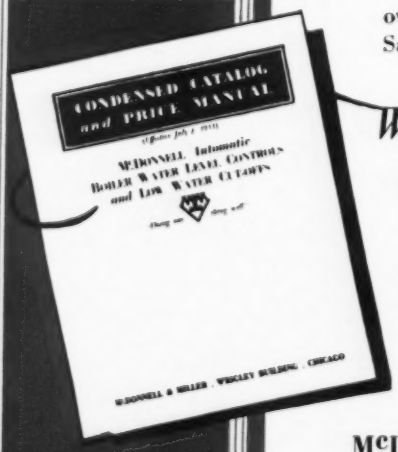
Feeder for quick installation in gauge-glass tappings of hand-fired jobs below 2500 sq. ft. Max. steam pressure, 15 lbs.



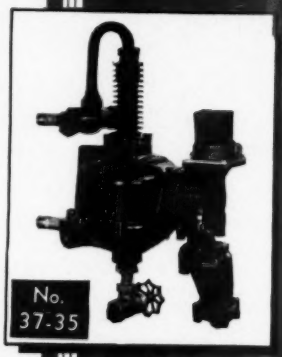
Feeder for hand-fired jobs between 2500 and 5000 sq. ft. Max. steam pressure, 15 lbs.



Feeder for hand-fired jobs above 5000 sq. ft. Max. steam pressure, 25 lbs.

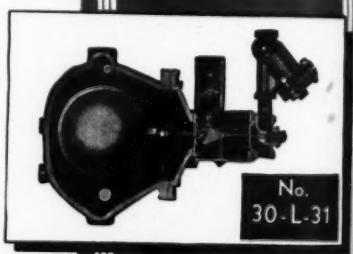


For AUTOMATIC JOBS

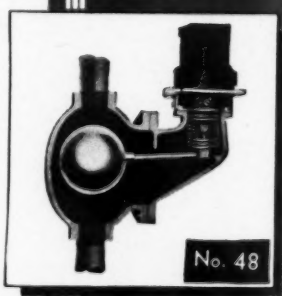


Feeder and Cut-off combined for automatic jobs below 2500 sq. ft. max. steam pressure, 15 lbs.

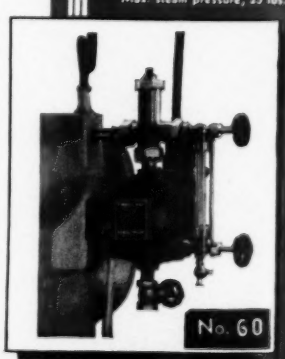
Combined feeder and Cut-off for automatic jobs from 2500 to 5000 sq. ft. max. steam pressure, 15 lbs.



Combined Feeder and Cut-off for automatic jobs above 5000 sq. ft. max steam pressure, 25 lbs.



Cut-off for automatic jobs of any size. Max. steam pressure, 25 lbs.



Cut-off for quick installation in gauge-glass tappings. Max. steam pressure, 25 lbs.

Write for this new, condensed catalog and price manual

There is still time to help yourself to the gravy. This condensed catalog is a complete sales kit in four pages. It contains prices, wiring diagrams, capacity chart, and all essential data. Write for it.

McDonnell & Miller, 1306 Wrigley Bldg., Chicago, Ill.

McDONNELL
Boiler Water Level
CONTROL

"Doing One Thing Well"

SUPPLY NEWS

Month's Developments among Manufacturers, Wholesalers and Salesmen in All Sections

A New F. W. Webb Mfg. Co. Is Incorporated

F. W. Webb Manufacturing Company is the name of a new concern which has just been incorporated under the laws of Massachusetts by C. B. Belknap, J. Coakley, P. L. Greene and J. M. Raftery, all former members of the F. W. Webb Mfg. Co., a New Jersey corporation, which with its predecessors has conducted a wholesale plumbing supply business in Boston, Mass., for the past 67 years. The new F. W. Webb Mfg. Co. has purchased the entire stock of plumbing and heating supplies from the former company and will continue the business at 1542 and 1544 Columbus avenue, Roxbury, Boston, Mass. The change took place on November 1.

Following this change, H. W. Thorndike, president of the old F. W. Webb Manufacturing Co., retires from active service in the plumbing industry, after having been connected with it for nearly 40 years. In May, 1894, he started as an office boy in the Boston branch of the Henry McShane Mfg. Co., of which F. W. Webb was at that time manager. In 1900, the F. W. Webb Mfg. Co. was incorporated and took over the business of the Henry McShane Mfg. Co. In this change Mr. Thorndike became secretary of the new company. Later he was made treasurer, thereafter vice president, and in 1912, after Mr. Webb's death, he became president, the office he held until his retirement.

Mr. Thorndike has always been very active in association affairs. He has served as president of the New England Sanitary Club, secretary of Massachusetts Sanitary Club, chairman of the National Committee of the Federated Supply Associations, secretary and treasurer of the Unity Club, and treasurer of the Plumbing and Heating Wholesalers of New England. He still occupies the last-named position and will continue to do so as the accredited representative of the F. W. Webb Mfg. Co.

Mr. Thorndike has not announced his plans for the future. The best wishes of a host of friends in the trade will follow him.

Opens Branch in Baldwin, L. I.

The New York Plumbers' Specialties Company, Inc., 334-336 East 98th Street, New York City, has opened a branch at 139-141 Grand Avenue, Baldwin, Long Island, N. Y. Charles Goldklang has been appointed manager of this branch.

Modern Equipment Corporation Reorganized

Modern Equipment Corporation of 4444 West Roosevelt Road, Chicago, manufacturer of the products formerly made by Thomas Kelly & Bros., has been reorganized and the following officers have been elected: President, H. Wood; treasurer, Jno. A. Brown; secretary, Fred Snyder. John B. Kelly of the original Thos. Kelly & Bros. is actively associated with the reorganized company.

Opens New Branch in New York

The Plumbers' Supply House, Inc., 262 West 145th Street, New York City, has opened a branch at 831 East 149th Street in New York City. Harry Resnicow is president of this concern, and Al Friedberg is its treasurer.

Ready for Business in Rockville Center

The Rockville Plumbing Supply Co., Inc., has started in business at 15 Lincoln Avenue, Rockville Center, Long Island, N. Y., under the management of I. Epstein, president of this company.

Weil-McLain Moves Chicago Jobbing Branch

The jobbing division of the Weil-McLain Company of Chicago recently moved its south side sales branch from 1815 West 74th Street to 8335 South Halsted Street. This new location is considered a better distributing center, both for delivery and pick-up business, because it is located on one of the principal business streets in Chicago, and ideal from the standpoint that it is close to 79th and Halsted Streets, one of the best business corners in the city. To celebrate the removal of this branch of its jobbing division the company held a formal opening on Saturday, November 25, attended by 300 guests, who thoroughly enjoyed the occasion. Outstanding features of the event were excellent food, refreshments and entertainment and the large crowd which celebrated the opening.

The float of the George E. Trudel Co. of Manchester, N. H., in the recent N R A parade in that city. The banner on the float bears the legend "The Plumber Protects the Health of the Nation"

Central Western Wholesalers Association Meets in Omaha

Wholesalers from Iowa, Nebraska, South Dakota, and some from Kansas, met at Omaha, Neb., on November 7. The by-laws of the new association were approved and preparations made for active work.

Announcement was made that the national distributors with branches in the proposed territory were authorized to become affiliated with the new association and would so join effective January 1.

Discussion was held on the wholesalers code and its present status, and F. W. Swanson, the association's representative on the Joint National Committee, reported on the accomplishments.

The matter of show-room discounts was discussed, and all were of the opinion that such discounts should be allowed at a fixed amount direct by the manufacturer at the end of the year, if fixtures were still on display, and a communication was sent to Joint National Committee as an expression of the Central Western wholesalers accordingly.

Announcement was made by Secretary D. R. Thomas of the compiling of statistics on the sales policy of various manufacturers, information to be given to members as to any manufacturer on inquiry, and that many such statements had already been received and filed for such use.

Proposed classification of members was also discussed to provide for wholesalers selling pipe, valves and fittings but not plumbing and heating supplies.

Another meeting will be held in December at Des Moines, the date not yet fixed and to be determined by President E. I. Leighton.

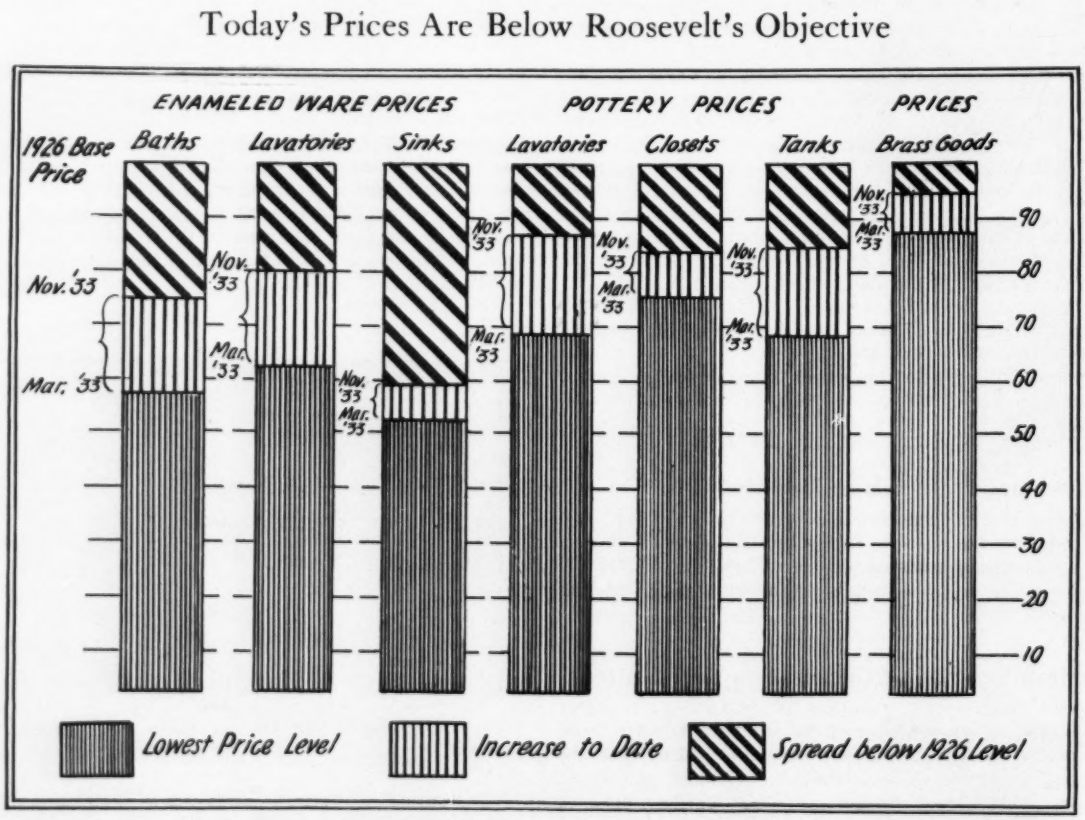
Plans are under way for the mechanics for the handling of complaints and for the enforcement of the wholesalers' code when approved.

Tell of Code Progress at E.S.A. Meeting

FOUR months work on the national plumbing and heating code is expected to be crowned with success in December, according to the statements of several speakers at the annual fall meeting of the Eastern Supply Association, held in the Hotel Astor, New York City, November 15 and 16. Only the knotty problem of sales distribution of manufactured goods remains to be solved.

Claude W. Owen, E. G. Schafer Co., Washington, D. C., member of the Joint National Code Committee, revealed that one of the important points recently agreed upon was the consent of wholesalers to sell only through contractors, and manufacturers only through wholesalers, the contractors, in turn, purchasing only through wholesalers. He declared that previously some 30 per cent of manufacturers' business reached them without having passed through the regular distributing chain of manufacturer-to-wholesaler-to contractor.

There have been some objections to this plan and suggestions made that wholesalers be allowed to make retail

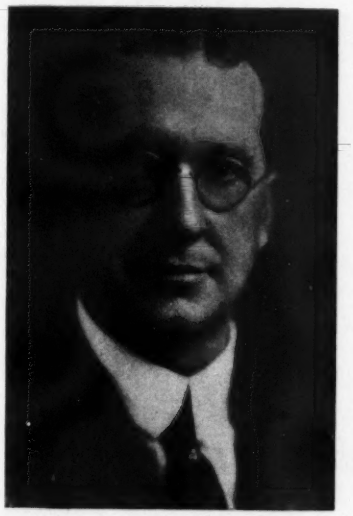


President Roosevelt is said to be seeking the restoration of 1926 prices. This chart, based on data given by A. M. Maddock of Standard Sanitary Manufacturing Company at the Eastern Supply Association's meeting, shows that plumbing prices have risen somewhat from their low points but are still well below 1926

sales. Should this be effected, it was made clear that such retail, direct-to-consumer sales must be made at prices the same as those that would be charged to contractors.

As under the soil pipe code, already passed, mail order and "direct-to-you" companies will be unable to purchase at lower than wholesalers' prices. The request of the wholesalers to make direct-to-consumer sales comes from a desire to meet mail order competition if necessary. An executive meeting of the wholesalers is reported to have brought forward suggestions that under the proposed new national code, wholesalers be divided into two classes, those who do contracting and those who do not and, again, contractors divided into two classes, those with stores, stock and volume purchasers, credit also being a factor, and small contractors handling repair work chiefly. No action on this was taken although, it is said, the data were placed in the hands of the National Joint Committee.

Claude W. Owen also urged the formation of a national federation of wholesalers so that they can put up a united



J. M. Chaplain
president

front against the strong lobby and propaganda at Washington of mail order and "direct-to-you" houses. He asserted that these competitors of the regular plumbing and heating industry have proved the most dangerous influence thus far encountered in reaching an agreement on the national code. The 40 hour working week appears in the code and wages are to be scaled according to population and locality.

Mail order and "direct-to-you's" came in for enlivened criticism by William J. Spillane, James B. Clow & Sons, also a member of the Joint National Code Committee, who referred to them as "octupuses that will eventually smother most of American business" unless checked by the NRA. He cited that whereas plumbing and heating contractors who carry stock must carry about 1,700 items and wholesalers from 12,000 to 15,000 items, much of them slow-moving, mail orders and direct-to-you's need stock only fast-moving items. Thus their investment in slow-moving merchandise is nil and they can turn their capital over many times a year by selling their fast-moving goods. This brings about an unfair condition of competition. The new national code will correct this unfair advantage.

Mr. Spillane requested all members of the plumbing and heating industries not to sign pledge cards, questionnaires and other special forms unless they be sent through the National Code Committee. Failure to do this has and may in the future hamper the work of the committee, he feels.

He then voiced a strong appeal for the formation of the proposed National Federation of Wholesalers of Plumbing

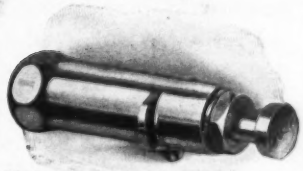
Simple . Sanitary
Dependable . Artistic

Watrous

LIQUID SOAP FIXTURES

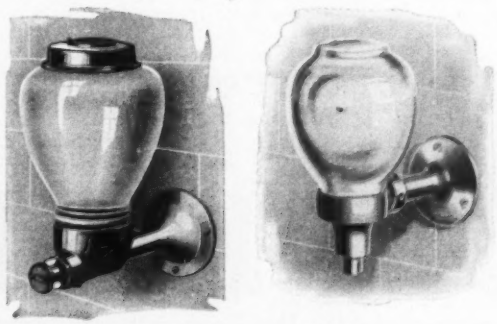
THE Watrous line of soap dispensers has for many years been in general use in the washrooms of clubs, schools, hospitals, industrial plants, hotels, etc.

The new designs are in perfect conformity with the styles prevailing in modern architecture. Finished in chromium plate or heavy nickel. A few types are shown.



Installed in all public buildings at the World's Fair. J. W. Holt Plumbing Co., contractors, directed installations.

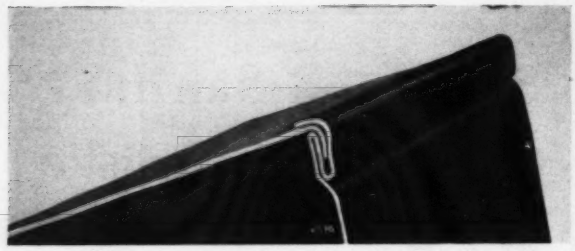
For horizontal operation with gravity systems. Only a measured quantity delivered at each push of plunger.



Both these types deliver a fixed amount of soap into operating hand. (Left) for attachment to lavatory top. (Right) for back or wall of lavatory.

Write for catalog 433, giving full details of the entire line of Watrous plumbing fixtures.

IMPERIAL BRASS MFG. CO.
1231 West Harrison St., CHICAGO



Crimped joint in 20-gauge Durimet sheet

ACIDS are in such common use these days that every plumbing contractor will find it pays to know all about Durimet . . . for Durimet is a sheet steel that is made by the makers of Duriron and is not eaten away by corrosive fumes or acids.

Suppose your next job is to dispose of fumes from a battery station, telephone building, chemical laboratory or any other place where acids are giving off destructive vapors:

Do you know that Durimet is the most satisfactory material you can get for this purpose . . . that a fume duct made of it will not be eaten out by the acid fumes . . . . that Durimet can be fabricated and worked almost like ordinary sheet iron . . . and that a Durimet job will be most satisfactory to your customers and also profitable to you?

These are facts that it will pay you to know. Send the coupon below for Bulletin No. 501-B that explains when and how to use Durimet.

THE DURIRON COMPANY, INC.

Makers of Duriron Acid-Proof Pipe

410 N. Findlay St. Dayton, Ohio

DURIMET

Mail This Coupon

The Duriron Co., Dayton, Ohio

Send me Bulletin 501-B about Durimet.

Name .....

Street .....

City .....

and Heating Supplies. This would enable, he said, manufacturers to reach suitable agreements with the industry whereas now they have to deal with many separate groups and associations in many parts of the nation. The new wholesalers' national association alone could overcome the damage done by mail orders and "direct-to-you's." On a motion of A. C. Ruch, Interstate Plumbing Supply Co., Albany, N. Y., it was moved that the new president, John M. Chaplain of John Simmons Co., New York, appoint a committee at once to co-operate with the Central Supply Association and other groups to put the new national body into effect.

The activities of the association during the past year were covered in the address of welcome by President W. F. Bennett, Jr., and Secretary Treasurer Frank S. Hanley offered his report, in which he summarized the receipts and expenditures for the year.

John J. Kennedy, National Tube Co., speaking for the Steel and Wrought Iron Pipe Code Committee, revealed that all mills except two have agreed on their code. Current business, he said, shows improvement. A poor banking system

How Prices Compare With 1926 Levels

Average Enamel Iron Prices

Fixtures	Sizes	1926	1932	1933	Nov. 1, 1933 Net Prices
Baths	5′	100	62.40	57.90	$75.40
	5½′	100	64.20	56.60	78.50
	5′	100	61.30	56.40	73.50
	5½′	100	63.40	58.90	76.70
	4½′	100	61.20	54.00	70.00
	5′	100	63.40	56.40	73.20
Lavatories	24x20″	100	64.40	57.50	75.00
	21x17″	100	73.50	67.90	88.20
	24x18″	100	68.50	61.50	80.40
	19x17″	100	70.60	64.40	83.50
	21x18″	100	72.50	64.90	84.00
Sinks	52″	100	54.60	47.40	52.40
	60″	100	54.60	47.70	52.60
	52″	100	66.50	60.00	66.20
	60″	100	60.80	52.90	58.20
	74″	100	68.60	57.40	68.90
	24x20″	100	79.60	73.30	91.80
	30x20″	100	68.00	62.70	78.50
	36x20″	100	76.80	71.00	90.20
	36x22″	100	86.20	79.00	99.10
Laundry Tray	.....	100	80.70	71.20	92.50
Laundry Tray and Sink Combination	50″	100	71.60	64.50	87.20

Average Pottery Prices

	Sizes	1926	1932	1933	Nov. 1, 1933 Net Prices
Lavatory	24x20″	100	78.70	68.20	$86.60
	27x22″	100	74.40	61.50	85.00
	26x14″	100	90.00	88.30	89.70
	20x18″	100	80.00	70.80	87.10
	24x20″	100	80.10	74.30	74.50
Closets	.....	100	87.50	87.50	112.80
	.....	100	83.40	75.60	83.30
Tanks	.....	100	73.80	68.80	90.60
	.....	100	89.90	73.00	84.10

Comparative Brass Figures

Chromard China	1926	1932	1933	Nov. 1, 1933
Showers	100	83.90	87.70	$94.50
Showers	100	89.60	97.70	97.20
Bath Fittings	100	90.90	100.70	105.00
Lavatory Drains	100	80.20	87.80	92.90
Lavatory Fittings	100	87.40	95.80	97.40

has proved a real obstacle to more rapid recovery. Mr. Kennedy read a telegram from Walter J. Kohler, Kohler Co. to the effect that the national code is expected to be ready in December and now has to settle only the problem of sales distribution.

William A. Brecht, president, Hajoca Corp., Philadelphia, recited the difficulties encountered in having the soil pipe code passed. His remarks followed close those published in the November issue of DOMESTIC ENGINEERING.

PRICES ARE TOO LOW

A. M. Maddock, Standard Sanitary Mfg. Co., made a plea for $500 to be donated to the work of the Plumbing and Heating Industries Bureau. The matter, however, was referred to the incoming board of directors. Comparing present prices of plumbing goods with those of 1926, the goal sought by President Roosevelt, Mr. Maddock stated that prices have not reached by a long way the level asked for by the President. He introduced a large chart of contrasted figures to demonstrate. He thought both wholesalers and contractors can use such figures to advantage in talking with prospective purchasers who consider current prices too high.

The whole NRA code idea received considerable criticism by John W. VanAllen of Buffalo, an attorney for radio and aircraft interests. He felt that proper legislation should come through Congress rather than piecemeal through several departments. He maintained that the Federal government has aided big business at the expense of small concerns. Efforts to establish codes have unveiled how manifold and how deep rooted are the ills that smother most every industry. Codes, he said, are but a means to an end; out of codification may come good regulation of business, which, nevertheless, can not be well handled by codes alone.

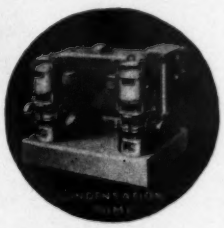
There was considerable food for thought in the remarks of Shirley W. Wynne, commissioner of health, City of New York. According to this authority, good plumbing has held the annual death rate in the city down to about 65,000 instead of the probable 350,000 without it. Better sewerage and elimination of the smoke nuisance are the crying needs of the hour in New York and pure air is as important as are pure milk and water.

H. T. Richardson
first vice president

Thomas J. Donovan, vice-chairman of the department of law and complaints for the NRA, explained the usual procedure of codification. Thirty thousand replies to 200,000 questionnaires sent out in Greater New York demonstrated that the NRA movement has the approval of the general public.

Hon. Charles A. Eaton, New Jersey congressman, a mem-

BULLETIN 1100


BULLETIN 800

BULLETIN 700

AMES NRA MEMBER U.S. WE DO OUR PART PUMPS

DISTINCTIVELY DIFFERENT

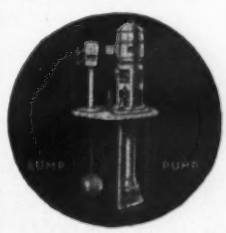
Because—

In designing Ames Pumps, the prime consideration of Ames engineers is, and always has been, to make quality an inherent feature that is expressed in advanced design, workmanship, and above all—pump performance.

A most important, but secondary matter, is the exceptionally attractive price that puts these quality pumps on a very favorable competitive basis.

AMES PUMP COMPANY, INC.
30 CHURCH STREET • NEW YORK, N. Y.
Manufacturers of vacuum heating, condensate, centrifugal pumps, and fuel oil pumping-heating units
Division of American Locomotive Company
Representatives in all principal cities. Products manufactured and sold in Canada by Montreal Locomotive Works, Ltd.

BULLETIN 1100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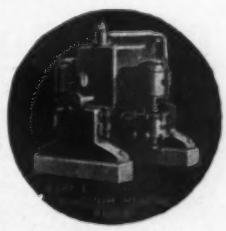

BULLETIN 600

A Dependable, Low-Cost Water System

. . . a complete unit ready to install for as low as –

$43.75

AT DAVENPORT

(Subject to raise without notice)

The Red Jacket Shallow Well Water System is built of the finest materials obtainable—carefully designed to give many years of dependable, economical service. It's this unusual combination of quality, proven dependability and low price that make Red Jacket the leader today. Our low price of only $43.75 was made possible by volume production and *not* by using inferior materials in the construction of Red Jacket Water Systems. Higher labor costs and rising raw material prices make it impossible for us to indefinitely guarantee present low prices. It will pay you to write *today* for full details before prices go up further.

Liberal Dealer Discounts

Line up with a water system that has a quick turnover, low selling price and yet gives years of reliable, trouble-free service. Write for your liberal dealer's discounts and be among the first in your territory to cash in on this fast selling system.

Also complete line of hand, windmill, three-way pumps and accessories.

Consider These Red Jacket Features

1. Will deliver 250 **actual** gallons per hour at peak pressure from well or cistern up to 22 ft. in depth.
2. Tested, proven water lubricated bearings which require no oil. Therefore no oil polluted water and no stuffing box leakage.
3. Powered by Century ¼ H.P. Motor.
4. All moving parts strongly made of non-corrosive metals—brass, bronze and stainless steel.
5. Pressure switch with Thermal overload protection, built-in relief valve and heavy galvanized tank.
6. Compact, quiet, well balanced, smoothly finished and attractively painted.

RED JACKET MANUFACTURING CO., DAVENPORT, IOWA

Mfgrs. of Pumps and Water Systems for 57 Years

DORWARD-Red Jacket

WATER SYSTEMS AND DEEP WELL POWER HEADS

ber of the Federal Shipping Board during the war, held that only the American people themselves have the key to business recovery. Codes and the NRA are only steps through which practical solutions must come. There are too many theorists and too few good business brains now in Washington. Recovery daily gathers momentum and soon things will be better, he stated.

The newly elected officers are: President, John M. Chaplain, John Simmons Co., New York; Vice President, H. T. Richardson, Richardson & Boynton Co., New York; Second Vice President J. F. Sheppard, C. S. Mersick & Co., New Haven, Conn.

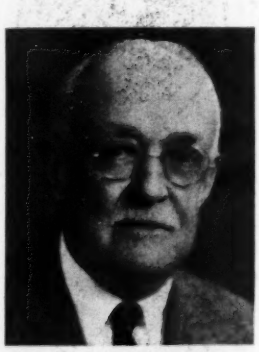
The directors are: Messrs. Chaplain, Richardson and Sheppard; W. A. Brecht, Hajoca Corporation, Philadelphia; E. P. Corey, Youngstown Sheet & Tube Co., Youngstown, Ohio; J. J. Crotty, Central Foundry Co., New York City; C. W. Farrar, Excelso Products Corp., Buffalo; A. N. French, Kohler Co., New York City; John J. Hall, Standard Sanitary Mfg. Co., Pittsburgh, Pa.; J. S. Mattimore, Walworth Co., New York City; Charles Millar, of Charles Millar & Son Co., Utica, N. Y.; L. U. Noland, Noland Co., Inc., Newport News, Va.; Claude W. Owen, G. G. Schafer Co., Inc., Washington, D. C.; Edward Smolka, E. Smolka Plumbing Supply Co., New York City, and George E. Trudel, George E. Trudel Co., Manchester, N. H.

Obituaries—

Albert V. Conradt

Albert V. Conradt of Kokomo, Ind., director of the Standard Sanitary Mfg. Co., died at his home in that city on Saturday, November 18, of a heart attack in his 66th year. Mr. Conradt was for many years president of the Great Western Pottery Co. of Kokomo until this concern was acquired by the Standard Sanitary Manufacturing Co.

George W. Best



George W. Best

George Wilmot Best, vice president of Sloan Valve Company in Chicago, died of pneumonia November 16 at the Woodlawn Hospital in that city in his 80th year. Mr. Best was born in Oswego, N. Y., and came to Chicago in 1887. He had been associated with the Sloan Valve Company for many years and was widely known in the architectural, plumbing and heating fields throughout the country. He had the happy faculty of making enduring friendships in business as well as in private life. He was a member of the Chicago Athletic Association, the South Shore Country Club and the Masonic fraternity. Funeral services were held in Chicago, and interment was made in Oswego, N. Y. He is survived by a daughter, Mrs. Wm. S. Kies of Scarborough, N. Y.

Thomas T. Lyman

Thomas T. Lyman, formerly manager in Chicago and the Middle West for the Johns-Manville Corporation of New York City, died November 5 at his home in Evanston, Ill., in his 71st year. He was born in New York City and had lived in several other cities before he moved to Evanston about 18 years ago. His wife, two sons and a daughter survive him.

Thomas N. Ide

Thomas N. Ide, sales representative for the American Manganese Bronze Company of Philadelphia, Pa., died at his home in that city October 11th in his 40th year. Mr. Ide was a graduate of Lafayette College and a World War veteran. Since his discharge from the army he has been steadily engaged in the plumbing industry, his last connection being with the American Manganese Bronze Company—since 1926.

Henry E. Bullock

Henry E. Bullock, chairman of the board of directors of the Illinois Malleable Iron Company of Chicago, Ill., died at his home in that city on November 8, in his 82nd year. Mr. Bullock was born in Otterville, Ontario, and entered the foundry business as a young man. In 1880 he and his brother, the late James C. Bullock, went into the foundry business for themselves at Rochelle, Ill., moving their foundry to Chicago four years later. H. E. Bullock was for many years president of the Illinois Malleable Iron Co., and served later as chairman of its board until his death. He was also president of the International Malleable Iron Co., Ltd., of Guelph, Ontario.

William E. Dee

William E. Dee, president of the Wm. E. Dee Company, manufacturer of sewer pipe in Chicago, died at his home in that city on Monday, November 20, in his 75th year. His wife, two sons and a daughter survive him.

A. Eugene Brady

A. Eugene Brady, vice president and treasurer of Jenkins Bros. of New York City, died at his home in that city November 4 in his 59th year. He was born in Athens, N. Y., and has been connected with Jenkins Bros. for 40 years.

Paul F. Reichert

Paul F. Reichert, founder and president of the Reichert Float and Manufacturing Company of Toledo, Ohio, died in his home in that city on Sunday, October 29, according to announcement issued by the company.

New England Metal Products Golfers Finish Season

The last meeting of the year of the New England Metal Products Golf Association was held at the Woodland Golf Club, Auburndale, Mass., November 9. The weather was excellent with the sun out in the morning. In the afternoon, it was rather cold, but the greatest number of members and guests to attend a meeting of the association this year was on hand.

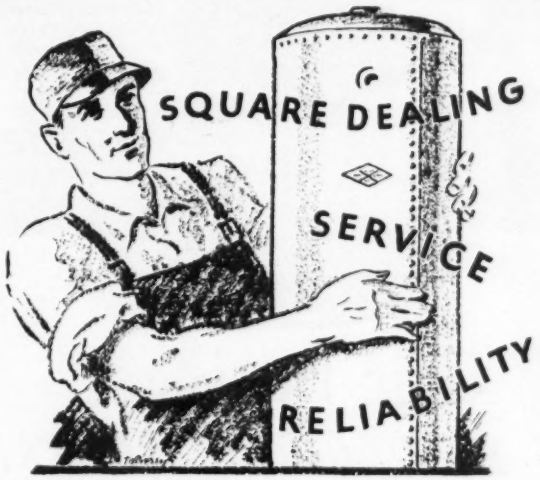
Luncheon was served at noon time to this large gathering, and dinner was served at 6:30.

E. B. Lane of the Standard Sanitary Manufacturing Company was appointed temporary chairman, in the absence of M. W. Dennison, president.

After the dinner, twenty-seven turkeys, as prizes, were distributed to the members present. Thomas W. Dawson, general manager of Crane Company's New England branches, handed out the prized birds.

H. W. Thorndike was given a rousing cheer when he responded to a request for a speech. He spoke of the happy life he had spent in the plumbing supply industry, and the fact that he cherished the warm friendship of all members of the New England Metal Products Gold Association.

It's a KOVEN Product



Our 52 Year Reputation stands behind the Plumber

A record established for square dealing, service and reliability over this long period has brought to the Koven organization the business of the leading plumbing jobbers in the country.

Every plumber knows that when he buys equipment from us, he can rest assured that he is giving his customer not only the best in his own service, but the highest quality in merchandise.

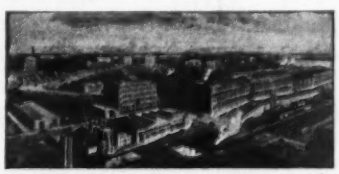
RANGE BOILERS
Galvanized or Copper
SCULLERY SINKS
BARBER BOILERS
KOVEN-PARACOIL TANKS

NRA
WE DO OUR PART

STORAGE TANKS
Steel or Copper
FUEL OIL TANKS
EXPANSION TANKS
SEPTIC TANKS

Insist on the best by asking for KOVEN products from your jobber.

Send for new 1933 Plumbers' Hand Book.



L. O. KOVEN & BRO. INC.
154 Ogden Ave.
JERSEY CITY, N.J.

The leader in a line of leaders. A 200-gallon shallow well pump, complete. No extra charge for motor protective relay.

Our business *is as good as yours!*

THIS company has been in the water plant business for a long time. We have never seen any manufacturer who was successful unless his dealers made profits, too.

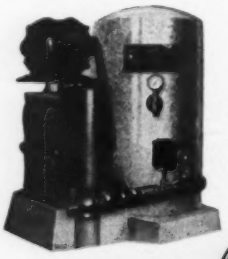
Business can only be *good* with *us* when it's *good* with *you.*

It is the policy of this company to give its dealers every possible aid to profits. In so doing we better our own business. Into the present line of F-M Home Water Systems, we have crowded the greatest value and sales features ever seen in the industry. We have done that to enable you to sell *more* of these systems.

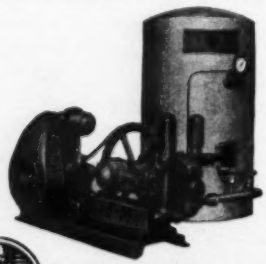
Prices are lower and values are greater, with liberal discounts to dealers.

Advertising and dealer helps are being maintained *consistently.*

Dealers are deciding daily, that it is easier to sell the F-M line than to sell in competition with it.



Electric motor driven system for deep wells.



Engine driven F-M *system for shallow wells.*

FAIRBANKS, MORSE & CO.

MANUFACTURERS, CHICAGO, U. S. A.

Branches and Service Stations Covering Every State in the Union

SEND FOR FREE CATALOGUE

FAIRBANKS, MORSE & CO., Dept. I-12
900 S. Wabash Ave., Chicago, Ill.

I am interested in your dealer proposition. Send me complete information and FREE Catalog and Handbook on Water Systems.

Name.....

Address.....

Business Personals

ROBERT G. SCOTT has been appointed vice president of Revere Copper and Brass Incorporated of New York City and will be in charge of the Taunton-New Bedford Division with headquarters at Taunton, Mass., according to announcement just issued by President C. D. Dallas. Mr. Scott has been associated with Revere Copper and Brass Incorporated since its inception in 1929 and was previously connected with the Rome Brass & Copper Co. and Baltimore Copper Mills, both of which are now part of Revere Copper and Brass Incorporated. The Taunton-New Bedford Division operates mills in Taunton and New Bedford, Mass., and serves the New England area.

HUGH L. RUSCH, who joined Northern Pump Co., of Minneapolis, some years ago, has been elected vice president of this concern and appointed eastern sales manager with headquarters in the Chrysler building in New York City. Mr. Rusch was formerly connected with the Johns-Manville Corporation and before that eastern district manager for Arthur C. Nielsen, Inc., of Chicago, Ill.

CLIFFORD R. KNIGHT, manufacturers' agent at Slingerlands, N. Y., has been appointed agent for C. Stanley Morgan, manufacturer of pipe coverings and accessories at Detroit, Mich.

A. M. JACKSON has been appointed sales representative in the Denver, Colo., territory for Pure Carbonic, Incorporated, of New York City. Mr. Jackson will make his headquarters at 2161 Blake street, Denver.

NORMAN W. FARLOW of San Francisco, Calif., has been appointed district sales representative for the Good Manufacturing Company of New York, his territory extending throughout Northern California and Nevada. For the past four years Mr. Farlow has been engaged in sales promotion work for the Wheeling Steel Corporation, and for ten years prior to that he was associated with Holbrook, Merrill & Stetson of San Francisco. Mr. Farlow's headquarters are at 1273 Hayes street in San Francisco.

G. M. JANES is now working with representatives of the Milwaukee Valve Co., Milwaukee, Wis., in all sections of the country and is co-operating with wholesalers in promoting the sale of the company's heating specialties and valves as announced by C. S. Bigelow, sales manager. He formerly covered the Kansas City territory for the company where his record led to his selection for his present position. For the past three months, Mr. Janes has been working with wholesalers and distributors in the eastern sections of the country.

G. M. Janes

J. EDGAR TITZELL has just been added to the sales organization of the New York City branch of the National Radiator Corporation and has been placed in charge of steel boiler sales promotion. Mr. Titzell is well known in the trade having been connected with the J. L. Mott Iron Works sales organization for many years.

W. M. GALLAGHER has been appointed sales representative for the Prier Brass Manufacturing Company of Kansas City, Mo., and for the Masterson Company. Mr. Gallagher is located at 202½ Westport avenue, Kansas City, Mo.

Government Reports Show Increases in Employment, Pay Rolls and Prices

The United States Bureau of Labor Statistics has just reported that employment in manufacturing industries increased one-tenth of 1 per cent between September and October, 1933, and pay rolls increased six-tenths of 1 per cent over the month interval. The October index of employment was 74.0 as compared with 73.9 in September, and the index of pay rolls in October was 53.6, as compared with 53,3 in the preceding month.

A comparison of employment in October 1933 with October 1932 shows that employment in October of the current year is 23.5 per cent above the level of the October 1932 employment index (59.9). A similar comparison of the October 1933 pay-roll index with the October 1932 index (39.9) shows a gain of 34.3 per cent in pay rolls over the year interval.

The increases in employment and pay rolls between September and October 1933, while small, indicate a continuation of the gains in employment and pay rolls which occurred during the preceding 6-month interval.

The index numbers of employment and pay-roll totals in the plumbing and heating supply factories are reported as follows: Plumbers' supplies, employment in October 1932, 51.2; in September 1933, 87.6; in October 1933, 81.6; pay-roll totals, October 1932, 28.7; in September 1933, 53.3; in October 1933, 46.5. The index numbers in steam and hot water heating apparatus and steam fittings are: Employment in October 1932, 37.3; September 1933, 48.3; October 1933, 44.6; pay-roll totals, October 1932, 23.6; September 1933, 30.3; October 1933, 27.8.

The index numbers of wholesale prices in plumbing and heating are: October 1932, 67.5; September 1933, 74.7, and October 1933, 74.7.

These numbers are all based on average prices, employment and wages for the year 1926 as 100.0.

Agnew Pelletier & Tomlinson Expanding

Agnew, Pelletier & Tomlinson, distributors of heating materials at 503 Fifth Avenue, New York City, have recently taken over the sale of three new lines in their territory: Air valves, manufactured by the Anderson Manufacturing Company of Cambridge, Mass.; the line of steel water tube boilers, manufactured by the Smith Twin Tubular Boiler Co., of Philadelphia, Pa., and adjustable radiator brackets, made by the United Appliance Co., of Rochester, N. Y.

Bronx Masters Entertained by Johns-Manville Corp.

Members of the Bronx Branch of the Master Plumbers' Association of New York, N. Y., numbering about 150, were guests of the Johns-Manville Corporation at a recent party.

The principal entertainment of the evening was a visigraph presentation of "Uncovering Profits," a story that tells in an interesting and entertaining way how the house-owner can save money by having his boiler, heating mains, hot water supply pipes and range boiler properly covered. The story stressed the point that such a job could be made to yield the contractor a nice profit.

The affair was in charge of C. H. Hall, manager of the low pressure heating division of the Johns-Manville Corp.

Natkin & Company Is the New Name

Benjamin Natkin, president of the Natkin Engineering Co., Kansas City, Mo., has just announced that his concern has been reorganized, its name changed, and that the business has been moved. The new name and address are Natkin & Company, 2020 Wyandotte street, Kansas City, Mo.

Better Valves

for the same price

Fig. 27 Kennedy Standard Bronze Gate Valve for 125-lb. steam pressure or 175-lb. water pressure

Fig. 25 Kennedy Standard Bronze Gate Valve with rising stem

KENNEDY Bronze Gate Valves have long been a favorite of experienced contractors and engineers—in fact, many have told us that they consider them the best on the market for standard steam and water pressures.

These valves are now even better than before—with larger and more rigid bonnets, deeper stuffing boxes with gland and molded packing rings, heavier and stiffer stems, increased contact threads at pipe ends and discs, stronger and finer grade of metal throughout, and heavier weights of all sizes.

And note this: These important improvements have been added at no extra cost to you, for these Kennedy Valves are still sold at standard market prices. These valves, which will do credit to your finest work, are priced low enough to permit using them even on competitive jobs where you must figure closely.

The Kennedy Valve Mfg. Co., Elmira, N. Y.
Warehouses and Representatives in Principal Cities

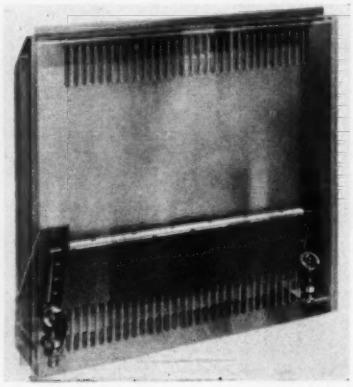
KENNEDY

VALVES-PIPE FITTINGS-FIRE HYDRANTS

New Store AND Job Items

New Type Radiation

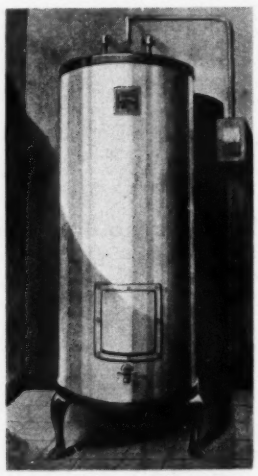
The accompanying illustration shows a new radiator unit. It is of the concealed convection type and is described as being light weight. It embodies in a single unit construction, a heating element consisting of aluminum fins on copper tubing. A radiator supply valve and union connection having an orifice is built into one header as an integral part of it and a thermostatic return trap and union connection



is built into the other header, also as an integral part. The combination of these elements in a single unit has been made with the idea of simplifying piping connections. The heating element is inclined at an angle for the purpose of providing a maximum heat output per unit of space occupied. This equipment is obtainable in a choice of plaster front, metal front, tile front, and cabinet units. All of these enclosures are designed so that the entire heating element may be removed through the lower grille or opening after installation. A wide range of sizes is available. Warren Webster & Company of Camden, New Jersey, is the manufacturer.

Water Heater Operated by Electricity

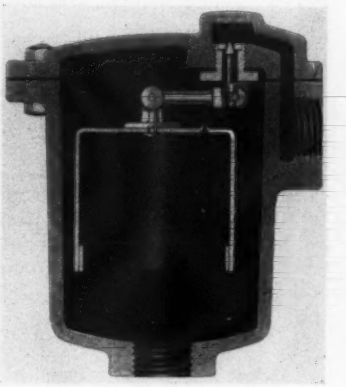
This water heater has been placed on the market just recently with the idea of providing a unit for heating domestic water with electricity in an economical and rapid manner. What is known as a percolating system is used in the heating operation. In this case a comparatively small body of cold water in the tank is subjected to an intense heat from the electric element. This causes the water to ascend through the percolator tube to the service pipe for immediate use. The electric elements are mounted outside and below the storage tank, directly under the base of the percolator. Both elements being made removable for replacement or inspection. The heating element is controlled by a thermostat located near the bottom of the tank. Since this heater is of the off-peak storage type, the thermostat automatically controls water temperature during recuperation on off-peak hours. A second heater of this line is of the fully automatic type and in this case the center element is of comparatively low wattage, for the purpose of recuperation of the water in the storage tank. It is thermostatically controlled and maintains the water at a given temperature. It is designed to be of sufficient size to insure a full tank of hot water under all ordinary household demands. In this second type of heater, a second thermostat located near the top of the tank automatically controls the booster element. This line of equipment is insulated with cork. All wiring and piping and fittings are within the tank case. The finish is available in various colors of duco. The heater is supplied in 10-20-30-40-50-66-80- and 100- gallon sizes. The manufacturer is Electrohot Sales Company, located at 1334 Michigan Theater Bldg., Detroit, Mich.



A Large Volume Steam Trap

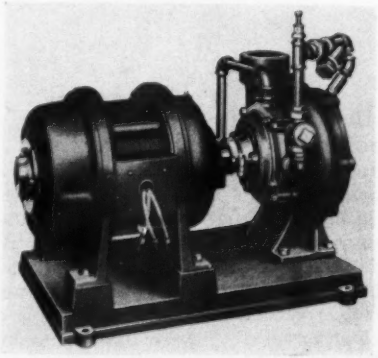
Here is a steam trap which has been placed on the market for installation in all classes of hospital and kitchen equipment or any similar service where a considerable volume of condensate is to be handled. In addition to this, the trap is made to be self-venting. It is made for simplicity in construction and operation. The motive element is an inverted seamless open bucket which operates through a cast brass lever arm to open and close the swivel valve pin. The trap is designed to discharge intermittently. Between cycles of operation, the float is in the raised position, it being filled with steam and air, and the valve pin is closed against the seat. As condensate rises in the trap body, the weight of the water forces the steam and air out through the vent opening in the top of the float, thus filling the float with water which causes it to drop. When the condensate has drained from the trap, it fills with steam. This causes the float to rise once more and the valve pin to close against the seat. The body and cover are of cast iron. The bucket

is of seamless copper and the levers and clevises are of cast bronze. Pins, valve, and seat are of stainless steel. The design has been made to incorporate a high lever ratio with a corresponding high capacity. All piping connections are made to the body which permits the removal of the trap cover without disturbing the piping. The entire operating mechanism lifts out with the trap cover, so as to make all parts easily accessible. The trap is made in three sizes, namely ½-in. ¾-in. and 1 in. It is designed to be suitable for working pressures up to 125 lb. per sq. in. The manufacturer of this equipment is Jas. P. Marsh Corp., 2073 Southport Ave., Chicago, Ill.

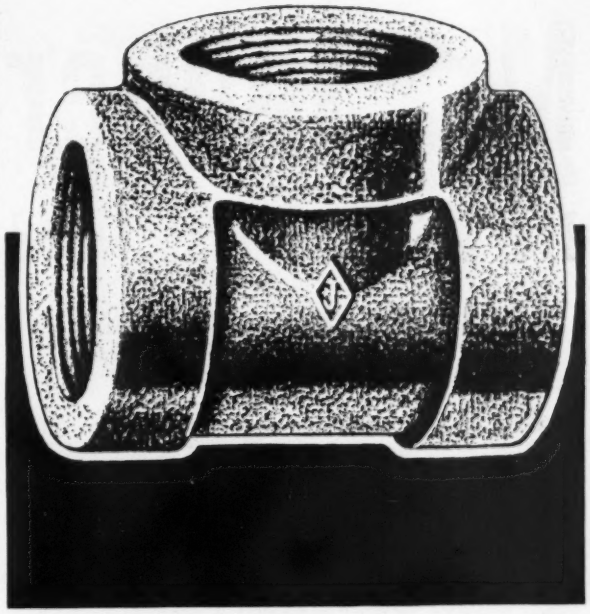


A Single Suction Self-Priming Pump

Here is a single suction pump which has been placed on the market just recently as a self-priming unit. As may be seen from the accompanying illustration, the self-priming device is mounted as an integral part of the pump casing. The pump shaft is an extension of the motor shaft and carries the impellers for the pump and the primer. With



this construction, no bearings are used in the pump, both radial and thrust loads being taken by the motor bearings. This has been designed to eliminate a coupling. Two types of impellers are available. On sump service, or wherever liquids are not clear, the open type is recommended for this unit, while for all services where clear liquids are pumped, the enclosed impeller is commonly supplied. The pump is furnished complete with all necessary fittings and is built in several sizes in capacities up to 450 gallons per minute and for heads up to 150 feet. Buffalo Pumps, Inc. located at Buffalo, N. Y. is the manufacturer.



JARECKI FITTINGS

Jarecki Fittings are the kind you would produce if you were writing the specifications. They are made of either brass, *air-furnace* malleable (free of the imperfections which cupola-melting cannot escape) or heavy, close-grained cast-iron. They have clean-cut, accurate threads. And they are so carefully inspected that only perfect specimens reach the user. Such fittings *speed production* and assure a perfect job. A complete line, made by a company with an 81-year record of service and integrity.

JARECKI MANUFACTURING COMPANY
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Mr. Jobber

Here is the last word in Steam Supplies

Steam Valve
No. 41

Hot Water Valve
No. 142

Water Gauge
No. 335

Compression Gauge Cock
Without Stuffing Box
No. 350

Compression Gauge Cock
With Stuffing Box
No. 355

Mass. Std. Fuse Plug
No. 370

A. S. M. E. Std. Pop Valve
No. 270

Order your steam supplies where you can be sure of not only a complete line but quality that has made Capitol the leading factor in this field.

Write for Our Catalog Showing Full Line of Plumbing and Heating Materials.

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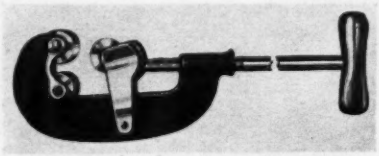
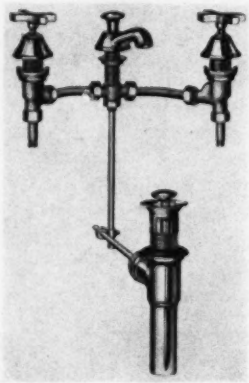
Bohn Aluminum & Brass Corporation
CAPITOL BRASS DIVISION
MANUFACTURERS OF BRASS VALVES, BOILER TRIMMINGS AND PLUMBERS' BRASS GOODS
DETROIT-MICHIGAN

Pipe Cutter Placed on Market

This pipe cutter is designed to have large size rollers spaced far apart for the purpose of easy cutting. It can be used either as a one or three wheel cutter, the design is made to equalize the distribution of cutting. The hollow body of the tool, combined with the supporting wheel block is for the purpose of insuring rigidity. The cutter is



equipped with a spring to hold the block against the screw and of the handle. It is furnished with two rollers and one ground plain edge wheel as standard equipment. Also it can be furnished as a three wheel cutter. One size cuts from ⅛-in. to 1-in. and a second size cuts from ½-in. to 2-in. pipe. The Nye Tool & Machine Works, 4120 Fullerton Avenue, Chicago, is the maker.



A New Line of Brass Goods

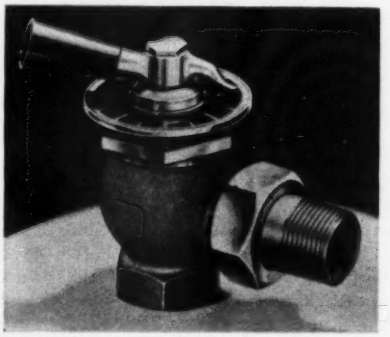
One portion of a new line of brass goods recently placed on the market is shown in the accompanying illustration. This line includes the staple trimmings for baths, showers and lavatories. They have been made with the idea of incorporating features to assure satisfactory performance and durability. The built-in supply valves, for instance, have renewable seats and stem threads in the centerpiece which has been made heavy and accurately machined.

Crane Co., 836 S. Michigan Avenue, Chicago, Illinois is the manufacturer.

A Graduated Radiator Valve

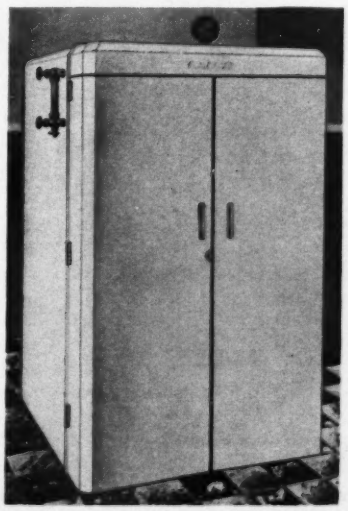
A number of outstanding features are listed in favor of the valve which is shown here. It is described as having large and unobstructed passages which are designed to prevent trouble from scale and dirt. The tail piece is made extra heavy with an idea of preventing breakage. Also, it is made extra long to facilitate its connection to radiators. The valve is of a packless type and has a quick opening non-rising stem and a renewable disk seat. The words "Open"

and "Shut" appear on the dial in letters made to be non-tarnishable. The valve is completely opened or closed in less than a full revolution of the handle. When it is fully open, it has a free area described as being practically equal to that of the connecting pipe. This valve is designed for use on either open return line vapor systems, or vacuum systems. It can be supplied with orifices if desired. Also, it can be supplied with a lock shield for use on radiators in corridors and other public places. A further variation is that it can be furnished with a wheel handle and indicating dial or with provision for chain operation. The manufacturer is Barnes & Jones, Incorporated, 128 Brookside Avenue, Jamaica Plain, Boston, Mass.



A New Boiler Jacket

A two-toned jacket as optional equipment for a magazine feed boiler is now being offered, as indicated by the accompanying illustration. The idea of this equipment is to provide a safeguard against dust and dirt and to give a touch of attractiveness to the boiler room, thus making it available as an additional recreation room in the home. This jacket equipment is offered by the Spencer Heater Company, of Williamsport, Pa.



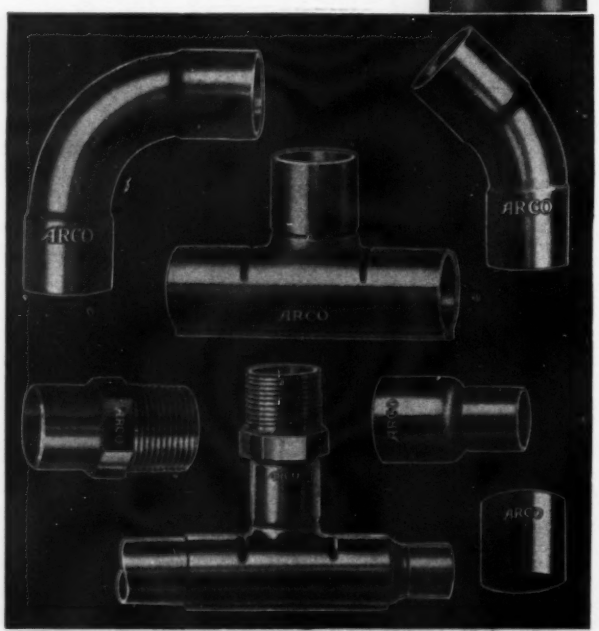
Temperature and Pressure Relief Valve

This new combination temperature and pressure relief valve has just recently been placed on the market. It is described as containing a combined dual relief valve of the

ARCO

FULL-FLOW wrought copper fittings and copper pipe

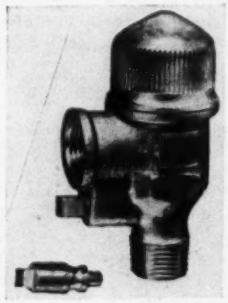
FOR perfect joints in sweated connections, use *both* Arco Full-Flow Wrought Copper Fittings and Arco Copper Pipe. Patented wrought metal process assures uniform wall thickness, perfect fit and contour. Special precision process makes all fittings identical. Leading jobbers everywhere distribute Arco "Precision-Made" Copper Fittings and Arco "Precision-Made" Copper Pipe. Ask them for prices and literature, or write direct.



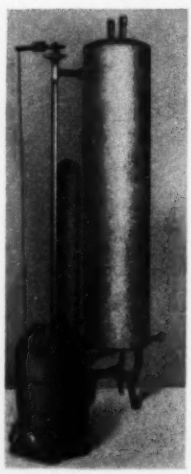
© 1933—American Radiator Company
Patent Number 1850049—Others Pending

AMERICAN RADIATOR COMPANY
40 WEST 40th STREET, NEW YORK, N. Y.
Division of
AMERICAN RADIATOR & STANDARD SANITARY CORPORATION

bellows-diaphragm type. Ease of servicing the temperature fuse plug and ease of servicing the temperature relief mechanism if so desired are listed as two of the most outstanding features of this unit. The dual plug can be replaced without removing the valve from the tank or disturbing the pressure relief setting. Each valve is provided with one extra fuse plug. The pressure relief assembly may be removed from the valve body as a unit, for



any servicing desired. While the standard settings are 212 deg. Fahr. for temperature, and 140 lb. per sq. in. for pressure, settings other than the standard are available on request. Pressure relief in this valve is brought about by the action of a unit pressure mechanism consisting of a stainless steel spring enclosed by a tinned copper bellows-diaphragm and a hexagonal brass plunger. The pressure adjustment is concealed to prevent tampering. The inlet and outlet connections are of ½-in. pipe sizes. The valve is built for application to storage tanks or range boilers to be used in connection with domestic hot water supply systems. The Patrol Valve Co., Locust Ave., Cor. W. 114th St., Cleveland, Ohio, is the manufacturer.



Tank Heater Regulator

The device which is shown in the accompanying illustration as being mounted on the top of the supply line from the heater to the storage tank, is designed to make the operation of small tank heaters automatic. The idea is to prevent overheating and rusty water. It operates to control the temperature. When the tank is full of hot water and when none of this water is being used, the regulator opens the feeder door. The E. J. Deegan Mfg. Company, 291 E. 134th Street, New York, N. Y., is the manufacturer.

THE TRADE

News of what plumbing and heating contractors are doing the country over

Restating A Platform

By Robert J. Barrett

Like the Third Little Pig, the National Association of Master Plumbers has built its house of brick. No huffing and puffing of any wolf can destroy what we have been fifty-one years abuilding.

The soundness of our structure has been demonstrated during the last few months while the blustery code winds were blowing. We have found that our half-century of labor has not been in vain. The reason for this is simple enough: during those years we have kept one purpose firmly in mind, and all our efforts have been to further that purpose. That purpose was defined when the Association was being born—it is just as important today: "Protect the Master Plumbers."

Therefore let us now take stock. Let us restate those principles for which we, as members of the National Association of Master Plumbers, are fighting today.

THE PRINCIPLES FOR WHICH N. A. M. P. IS FIGHTING

The members of the National Association of Master Plumbers are firmly opposed to:

(1) The sale, by wholesalers, of any plumbing materials direct to the consuming public, either with or without commissions reserved for the master plumber.

(2) The direct sale, by wholesalers, to the consuming public of any pipe, valves and fittings that are to be used as part of any plumbing system. This opposition to any pipe, valves and fittings sales definitely includes the sales of any such materials that may even be used for remodeling, replacement or the repairing of plumbing systems. In other words, we have been 100 per cent opposed to the direct sale of pipe, valves and fittings, for any plumbing purpose whatsoever.

(3) The direct sale, by wholesalers, to any individual, partnership or corporation who employ either master plumbers, or journeyman plumbers, on either a full time or part time basis.

(4) The direct sale, of all plumbing products by wholesalers to federal, state or municipal governments. We realize that there must necessarily be some exception to this particular opposition. However, we could not and will not be in accord with any ruling to the open privilege of indiscriminate selling to federal, state or municipal governments.

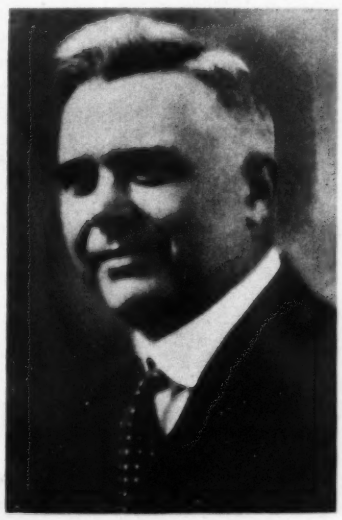
This, if you will, is our platform in the campaign that is now being waged for the economic security of the plumbing industry.

When the matter of establishing reciprocal rules between the wholesalers and the master plumbers has been effected and after such rules are crystal clear in the matter of interpretation, the next step in the program is to have the various codes embrace not only the regular type of distribution that we believe in but also the type of distribution that is now followed by mail order, so-called direct-to-you houses, etc.

Our belief is that the mail order and so-called direct-to-you houses should be brought to a retail selling level with us despite the fact that due to large purchases they may qualify as wholesalers for their buying. This belief, in fact the case of our attorneys, is predicated on three major thoughts:

First, plumbing is a health measure and cannot be compared with other lines of merchandising endeavor;

Second, the manufacturer, wholesaler, contractor method of distribution represents a great predominance of the in-



Robert J. Barrett, President, National Association of Master Plumbers

dustry's volume, and statistics are available to prove this; and

Third, failure to establish wholesale and retail levels covering both purchases and sales would have the effect of oppressing small enterprise. The oppression of small enterprise is distinctly prohibited in the National Industrial Recovery Act.

It is therefore of paramount importance that the codes of manufacturers, wholesalers and plumbing contractors embrace not only our own type of distribution, but also that they include the other types of distribution, so that wholesale and retail levels respectively may be established and fair competition thereby prevail.

At this writing our wholesaler friends have failed to arrive at this viewpoint. They believe that their code should only include wholesalers who confine their sales exclusively to master plumbers and the plumbing contractors. We believe that their opinion in this respect is a serious error. And we hope that their decision may be reversed so that they can join us in carrying on our fight to bring mail order and so-called direct-to-you houses on a retail selling level with us. Unless the retail selling level is established and the mail order and DTU houses are brought to a retail selling level with us, any reciprocal arrangements that we might effect with wholesalers will be of no avail.

You must be prepared to take action immediately if an emergency arises. Your officers are depending on you to give them the full power of your aid. You must believe that we shall not call on you for action unless that action is imperative. Be prepared for that time. Don't wait to portion out the glory. There will be glory enough for all when the fight is won.

Wisconsin Master Plumbers Fix Date for Convention

The Wisconsin Master Plumbers Association has selected January 23 and 24 as the dates for its annual convention. Headquarters will be at the Hotel Schroeder, Milwaukee, and officers of that association are now preparing the program. John P. McCoy, Fond du Lac, is president; David Stern, Milwaukee, first vice president; Andrew M. Tweet, Green Bay, second vice president; Chas. Pelunek, Milwaukee, is secretary; Joseph Wittig, Milwaukee, is treasurer, and Peter J. King, Milwaukee, is assistant secretary.

West Virginia M. P. A. to Meet February 5 and 6

The West Virginia Master Plumbers Association has selected February 5 and 6 as the dates for its annual convention. Headquarters will be at the Kanawha Hotel, Charleston. George A. Thompson, Charleston, is president; H. C. Hammann, Martinsburg, vice president; C. V. Swann, Huntington, secretary-treasurer.

Illinois Master Plumbers Will Meet in Quincy

The Illinois Master Plumbers' Association will hold its 41st annual convention at Quincy, Ill., January 16, 17 and 18, with headquarters at the Lincoln-Douglas Hotel, according to official notice issued by Executive Secretary Wm. R. Brookman, Chicago Heights, Ill.

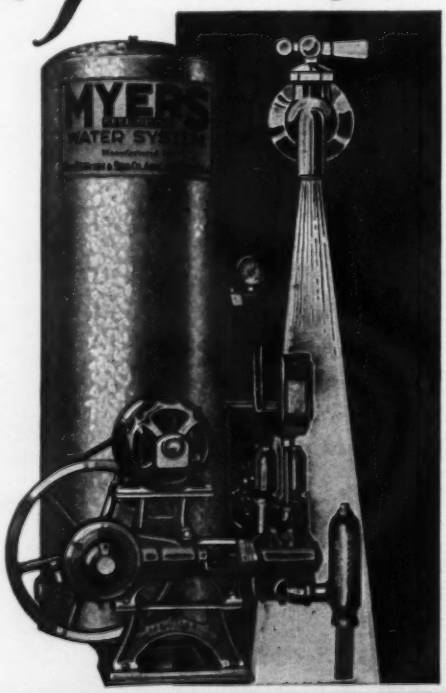
Rome, Ga., Master Plumbers Organize

Master plumbers of Rome, Georgia, recently organized the Rome Master Plumbers' Association and elected the following officers: President, O. L. Dempsey; vice president, C. W. Brookholdt, and secretary-treasurer J. S. Taylor.

To-day as Ever ~ ~ ~

MYERS

QUALITY PREVAILS



Nothing becomes more annoying than a balky pump or water system. Too many times the responsibility for this can be traced to faulty construction that when put to the severe test of week in and week out service fails to "stand the gaff" that it should.

Myers high quality standards have been rigidly maintained. No cheapening of materials. No skimping to lower costs. No letting down the bars to inferior workmanship and finish. No slip-shod inspection. Myers Water Systems are just as sturdy and compact as ever. Designed by pump engineers of long experience and built to precision standards, their performance records continue to be their biggest and strongest talking point.

May we suggest an early request for a copy of our new Water System Catalog No. PW34? Write or wire.

Take Off Your Hat to the MYERS

THE F. E. MYERS & BRO. COMPANY
ASHLAND, OHIO.

PUMPS—WATER SYSTEMS—HAY TOOLS—DOOR HANGERS

Edward Kanney Celebrates 40th Anniversary

Celebrating his 40th anniversary as a plumbing and heating contractor in La Porte, Ind., Edward Kanney recently entertained seventeen of his fellow contractors at his building on Monroe Street in that city. Following a dinner, Mr. Kanney told of his coming to La Porte in 1890 and working for Abram F. Waters and Paul Dolan until the fall of 1893, when he opened a plumbing establishment on his own account. His first shop was in the old First National Bank building until 1896, when he erected a one-story brick building on the site of his present building. In 1912 he tore this down and constructed his present five-story building.

Mr. Kanney has always attempted to use the highest grade of materials combined with good workmanship, and he has taken an active interest in association affairs, having served

Edward Kanney, La Porte, Indiana

the Indiana Association as president and in many other capacities. For many years he has been an ardent advocate for more education in the plumbing fraternity and the need of reading the trade's business papers in order to make the plumbing business a more profitable venture.

The celebration was attended by all the licensed plumbers in the city, and several of them spoke and all congratulated Mr. Kanney and wished him future success.

At the meeting an organization for compliance with the NRA code was completed. The officers of this organization are: President, Edward Kanney; vice president, G. F. Decker; secretary, Walter Backus; and treasurer, Arthur Leedle. Committees will be chosen by the officers.

San Francisco Trade Group Plans Big Christmas Party

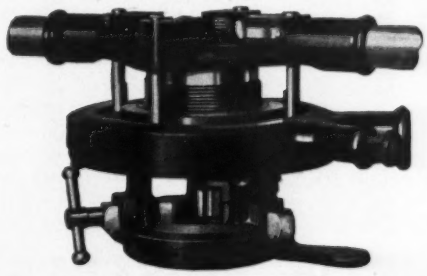
Ambitious plans are well under way for one of the biggest and best Christmas Hi-jinx parties in the history of the Plumbing and Heating Club of San Francisco and the Bay Cities, when members and guests to the number of two hundred will gather for golf, dinner festivities and cabaret entertainment at Lake Merced Golf and Country Club on the afternoon and evening of December 14th. W. H. Rainwater is general chairman of the arrangements committee. W. Allan Taylor is promoting ticket sales and Robert Allmon is handling publicity, while Elmer K. Ross is arranging entertainment details, and R. J. Fuite is looking out for an

NYE TOOLS

Receding Stock

(IMPROVED)

With Adjustable Guide



NO. 1-A RATCHET TYPE

The added feature of the Adjustable Self Centering Guide, which eliminates all loose bushings and thumbscrews, makes the improved Nye Receding Stock a most desirable tool.

The No. 1 and 1A Stocks are identical except that the No. 1A as illustrated is equipped with a ratchet for use where space is restricted.

Both stocks have a capacity of from 1 to 2 inches.

ASK YOUR JOBBER

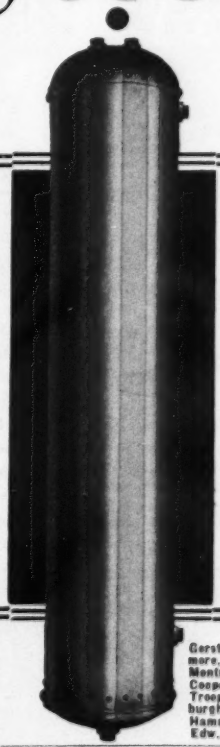
***The* NYE Tool & Machine Works**

4120-30 Fullerton Avenue, Chicago, Ill., U. S. A.

Specify G & C Boilers

Copper the Everlasting Metal

G & C for Quality Service



THE G & C Domestic Copper Range Boiler is the finest constructed, most sanitary boiler ever perfected. Compare it with other types. Note that the convexed bottom is joined to the shell by solid copper rivets, heavily backed by solder, a vast improvement over the obsolete, locked and floated type. This means higher tensile properties and an impressive appearance of greater strength.

The drain at the lowest point of the convexed bottom eliminates any sediment trap, thus doing away with dirty, rusty water that frequently results from inefficient drainage of sediment in ordinary type boilers. You can assure your customer of absolute freedom from this annoyance with the G & C Copper Range Boiler. Rust free pipes, longer service and cleaner, purer water are features your customers will welcome.

GERSTEIN & COOPER

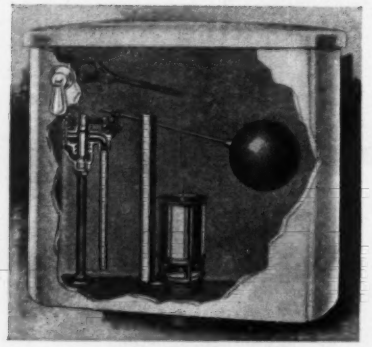
1-3 W. Third St.

South Boston, Mass.

REPRESENTATIVES

Gerstein & Cooper Co., Baltimore, Md.; G. Mason Prior, Montreal, P. Q.; Gerstein & Cooper, New York, N. Y.; Troop Water Heater Co., Pittsburgh, Pa.; Strong, Carlisle & Hammond Co., Cleveland, Ohio; Edw. Sinn, Harrison, N. J.

NO GUESSWORK



CURTIN NOISELESS TANK FITTINGS

. POSITIVE IN ACTION . BUILT FOR SERVICE
. QUIET IN OPERATION . FIT ANY SIZE TANK
NO REFILL TUBE REQUIRED

There is nothing like trying something out for yourself. Equip the next tank you install with a complete set of Curtin Tank Fittings.
You will find that they will measure up to everything that has been claimed for them.
The Valve will flush the heaviest closet with less than five gallons of water and also automatically refill it. The Ballcock is really quiet. Try IT!

A. F. CURTIN VALVE CO.
MEDFORD, MASS.

INSURE SATISFACTION WITH A REAL LEVER

THREE CURTIN MODELS

Curtin levers are made of cast bronze, fitted with self-adjusting escutcheons which are independent of handle and have metal to metal bearings. *There is no china rubbing against china.* Exert powerful lift. Can be tripped either to right, or left; and once properly installed in tank will neither work loose nor shift position.

elaborate array of golf prizes. The golf tournament is expected to draw upward of fifty to the Lake Merced clubhouse. This year's turkey dinner and cabaret show promise to be one of the most successful in the history of the club.

W. W. Hughes Elected Secretary of Regional NRA Labor Board in Minneapolis

W. W. Hughes of the Hughes Heating & Plumbing Company of Minneapolis, Minn., has been elected executive secretary of the Regional NRA Labor Board, which is to deal with disputes between labor and industry arising under the NRA, with headquarters on the seventh floor of the New York Life building in Minneapolis. Mr. Hughes is in charge of the offices, and as a salaried federal officer he will attempt to arbitrate all minor disputes, referring to the board itself only major difficulties which will be considered at public hearings, and decided by a majority vote of the eleven members, including the chairman. This group will have authority over a district roughly paralleling that of the ninth federal reverse district.

W. W. Hughes

Alameda County Plumbers Elect Officers

The Master Plumbers' Association of Alameda County, Calif., has elected the following officers for the ensuing year: President, H. S. Salisbury, 44 Perkins street, Oakland, Calif.; vice president, D. W. Durant, 391 Lake Park avenue, Oakland; secretary, W. De J. Evans, 6534 Telegraph avenue, Oakland; treasurer, Robert Duncan, Jr., 711 Myrtle street, Oakland, Calif.

Fairfield County Master Plumbers Elect Officers

The Fairfield County Master Plumbers' Association, Inc., in Connecticut has elected the following officers for the ensuing year: President, Charles Wm. Weitzel, Wilton, Conn.; vice president, Fred W. Goetz, Springdale, Conn.; recording secretary, L. De Witt Goulden; financial secretary, Stephen Miller, South Norwalk, Conn.; treasurer, Harold J. McGill, Westport, Conn.

Executive committee: Harold J. McGill, Charles Wm. Weitzel, George Greer, J. F. McNamara, Oscar Noyd and G. D. L. Raymond.

Auditing committee: Fred W. Goetz, Oscar Noyd and J. M. Forger.

Legislative committee: Wm. Henry, G. D. L. Raymond, John M. Forger and Stephen Miller.

Business and Conference committee: John M. Forger and A. C. Hughes of Norwalk; G. D. L. Raymond, J. F. McNamara and Fred Rutz, all of Stamford, and Harold J. McGill of Westport.

Entertainment committee: Wm. Henry of New Canaan, Samuel De Palmer and Harold J. McGill, both of Westport; A. Miller and Fred Rutz, both of Stamford; Stephen Miller and John M. Forger, both of Norwalk.

Membership committee: William Christie and Fred W. Goetz, both of Stamford; John M. Forger and Stephen Miller, both of Norwalk; Harold J. McGill and Samuel De Palmer, both of Westport; Wm. Henry of New Canaan, Charles Wm. Weitzel of Wilton, and George Schreiber of Ridgefield, Conn.

N. E. Heating Trades Golfers at Belmont Spring

The New England Heating Trades Golf Association held its monthly tournament at Belmont Spring Country Club, Waverly, Mass., on Tuesday, October 17.

This meet was favored with a good attendance, and all the proceeds were donated to the Charity Fund of the Emergency Planning and Research Bureau. The net result was $106, and this sum was presented to the bureau. This bureau was established two years ago for the purpose of helping unemployed engineers and architects. In those two years the bureau has contributed more than $78,000 to those in need in these professions. D. S. Boyden of the American Society of Heating and Ventilating Engineers stated that the bureau has kept an average of 155 men working continuously during this period. The work done by these men has been and will be of great value to the community for years to come. They have worked out rehabilitation of districts and made industrial surveys.

The prize winners at this tournament were: E. A. Bianchi, D. M. McNeil, Harry Rivers, A. Klonower, E. Tierney, R. B. Cracker, J. F. Tuttle, J. E. McFate, J. J. Melliken, J. A. Travers, J. Riley, and D. S. Boyden.

The scorekeeper's record follows:

	Gross	Net		Gross	Net
J. Riley	110	81	W. H. Oleson	110	93
H. Jacobs	118	96	C. T. Flint	102	90
J. E. McFate	106	80	F. T. Scott	109	90
D. McNeil	94	76	A. A. Klonower	91	76
D. S. Boyden	97	82	J. F. Tuttle	93	79
Harry Rivers	98	76	J. G. Ross	100	86
R. B. Cracker	92	78	W. Hale	118	85
J. J. Milliken	99	80	F. Goodwin	122	89
F. E. Johnson	102	86	G. Elliott	104	84
E. F. Tierney	97	77	J. A. Travers	87	80
E. A. Bianchi	87	74	E. T. Keefe	90	82
H. H. Jaynes	119	88			

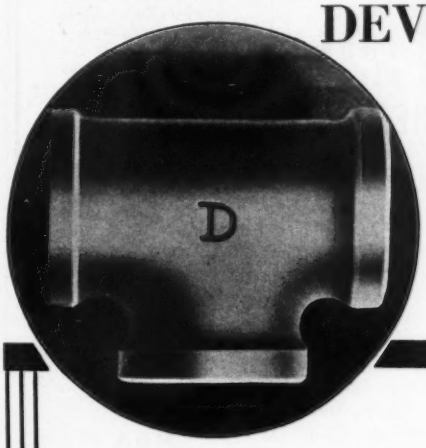
Opens New Store

On Saturday, November 18, Michael Mele, long prominent in plumbing circles in Chicago, opened a combination hardware and plumbing store at 6828 Windsor Avenue, Berwyn, Ill., a suburb of Chicago. The store represents the fulfillment of a dream of many years. Mr. Mele has been active with the merchandising group of the Chicago Plumbing Contractors' Association ever since it was formed.

Hand bills were distributed giving notice of the store open-

Michael Mele's new store in Berwyn, Ill.

Don't Curse Leaky Fittings — USE DEVLIN



For a permanent profit-saving, installation use the Fittings you can *swear by—not at.* Devlin superior Fittings are made stronger, tested more accurately and sold more conveniently. Packed in cartons. Sold also by barrel and in bulk.

THOS. DEVLIN MFG. CO., INC.
Burlington, N. J.

TIOGA
Compression Stops and Wastes surpass all requirements
(a "K-Co" Product)

Look over these Features
Symmetrical Design—Neat—Compact—Stem Washer easily renewed—Stem is provided with upper seat—When fully opened, there is no pressure on packing—Long Stem enables stuffing box to be re-packed, while Stop and Waste is open or closed—Large Waterway allows full volume—Extreme Durability—Long Service Life.

"For Sale by Wholesalers and Jobbers"

KITSON CO.
WESTMORELAND & STOKLEY STS.
PHILADELPHIA PA.

LET THE
REICHERT LINE
FILL
YOUR 1934
TANK BALL
REQUIREMENTS

★

The Reichert Line: Leader Tank Balls ... Leader Floats ... Federal Floats ... Toledo Solderless Floats

TANK BALLS that stand up in service and yield you a healthy profit. That's the Reichert Leader, and there is nothing else you can ask of a tank ball. The same holds good for the Federal Float. Where the service will be severe, that's the spot for you to use the Federal.

THE LEADER

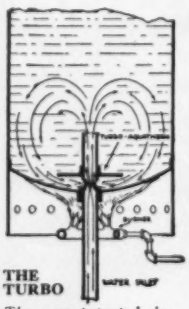
Ask Your Jobber About the Entire Reichert Line

THE FEDERAL

NRA MEMBER U.S. WE DO OUR PART

THE REICHERT FLOAT & MFG. COMPANY
2238 SMEAD AVENUE
TOLEDO - OHIO

Hot Water Boiler or Sediment Trap? Dahlquist-TURBO



THE TURBO

The new patented device which prevents mud from accumulating in the boiler.

Stops sediment from ever forming in the Hot Water Boiler.

Copper is nature's own material for storing hot water; never rusts or deteriorates. But regardless of the metal used, sediment in the water will form a coating of mud on the bottom unless it is equipped with Theodore W. Dahlquist's latest invention—the TURBO.

The TURBO, Theodore W. Dahlquist's latest invention, reduces cost of gas—prevents costly burnouts—and keeps hot water clean. It prevents sediment from forming on the boiler bottom.

SAVES GAS

Turbo Super Aquatherm Gas Underfire

The patented TURBO placed in all Dahlquist boilers uses 50% less gas, and gives a continuous supply of clean, fresh sediment-free hot water day and night.

Write for full particulars.

Architects and heating engineers may rely entirely on Dahlquist workmanship and experience, whether for range boilers, automatic storage boilers, or heavy pressure boilers.

DAHLQUIST MFG. COMPANY
50 West 3rd St. So. Boston, Mass.

ing, and several hundred people dropped in to get acquainted the day the doors were opened to the public.

California Plumbing Inspectors Hold Fourth Annual Convention

The Plumbing Inspectors' Association of California held its fourth annual convention in Long Beach, Calif., on Friday and Saturday, October 6 and 7, with headquarters at the Breakers Hotel. About 125 members and guests were in attendance. The election of officers resulted as follows: President, F. N. Johnson, San Jose; vice president, northern division, G. W. Gennit, Stockton; vice president, southern division, Charles B. Bailey, Los Angeles; secretary, Stephen I. Smoot, Los Angeles; executive committee, northern division: E. A. Court, Sacramento; George Grimshaw, Berkeley; Gay R. Hilliker, Fresno, and William D. Hobra, San Francisco; executive committee, southern division: A. A. Bennett, Los Angeles; W. R. Bills, Alhambra; Joseph T. Curley, Long Beach; J. B. Davis, Los Angeles county, and J. M. M. Winkler, Pomona.

The 1934 convention will be held at Stockton, Calif.

J. F. Mongrain on the N. R. A. Committee

Joseph F. Mongrain, for the last two years president of the Master Plumbers' Association of Bridgeport, Conn., has been appointed a member of the NRA Committee representing the Bridgeport master plumbers. Mr. Mongrain is conducting a plumbing and heating business at 309 Wood Avenue in Bridgeport and he is a member of the Algonquin Club, the Bridgeport Order of Elks, and the board of the Park City Building & Loan Association.

Joseph F. Mongrain

Mid West M. P. A. Meets in Clinton, Okla.

The Mid West Association of Master Plumbers held its regular bimonthly meeting in the Calmez Hotel at Clinton, Okla., on Wednesday evening, November 1, with a good attendance.

This meeting was very important owing to the fact that discussions were started contemplating the development of plumbing codes in the various communities represented in the membership of the association.

County commissioners and county health officers of several of the localities interested attended as guests of the association.

Samuel A. Rice and William Damon, both of Oklahoma City, were also in attendance.

The principal speaker was Dr. W. H. Miles, health director of Oklahoma City, who delivered a splendid address on the necessity for sanitary codes and public control of plumbing installations.

Following the meeting, those in attendance enjoyed a fried chicken dinner in the banquet room of the hotel.

Utah Plumbing and Heating Contractors Approve Proposed Code

The draft of the proposed code for the contracting and retail plumbing and heating industry, in the state of Utah, as prepared by the joint committee from the Salt Lake City Association of Licensed Plumbers and the Utah State Association of Contracting Plumbers, was approved with slight amendments by approximately seventy-five members of the industry present at a meeting October 28, at the Newhouse Hotel in Salt Lake City.

As soon as the signatures of a majority of the two hundred persons engaged in the business is secured, the proposed code will be presented to State Administrator Gus P. Backman for public hearing. It is anticipated that the required majority will be secured without delay, as a considerable number of the local association members throughout the State have signified their approvel but were not preesnt at the meeting.

The following executive committee was chosen to take the necessary procedure to secure the adoption of the code, and to enact rules and regulations for its enforcement after approval: A. H. Higham and William Green, Salt Lake City; Leo S. Holbrook, Bountiful; Henry G. Blumenthal, Provo; Morgan S. Lott, Lehi; E. K. Ferguson, Spanish Fork; Milton Bachman and A. H. Krumperman, Ogden, and T. W. Coleman, Brigham City.

The following officers were chosen by the executive committee: Mr. Higham, president; Mr. Blumenthal, vice president; Mr. Holbrook, secretary, and Mr. Krumperman, treasurer.

Under the proposed code, the industry will be incorporated as a non-profit corporation, to be known as the Contracting and Retail Plumbing and Heating Association of Utah.

The minimum wages provided are: journeyman, $1 per hour; apprentices or shop boys, 35 cts.; helpers and common laborers, 50 cts. Maximum hours for journeymen, helpers, and apprentices, are 35 per week upon a seven hour per day basis, and time-and-a-half for overtime.

Among the unfair trade practices listed are:

1. Substitution of inferior materials without consent of owner;

2. Using methods of installation not in accord with applicable governmental laws obtaining in the territory affected;

3. Payment or allowance of rebates, refunds, commissions, unearned discounts, etc., or extending to certain purchasers special services or privileges not extended to all purchasers, under like terms or conditions, or not specifically mentioned in the specifications;

4. Attempting to induce breach of existing contracts between competitors and their customers;

5. To give anything of value to employees of prospective customers for the purpose of influencing acts of their principals;

6. To pay the net amount due to employees in any other manner than with lawful money of the United States, or by check for payment of which sufficient funds have been deposited at the time of issuance. (The purpose of the clause being to eliminate a growing practice of forcing employees to take a certain percentage of their pay in credit to be used in trading with the employer.);

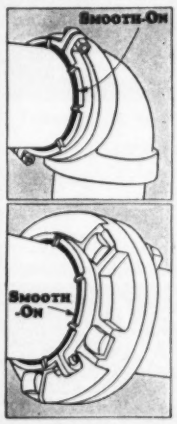
7. To lend, transfer or allow anybody to do work under a master plumber's license held by others.

8. To be a party to "bid peddling."

9. For a person engaged in the contracting or retail branches of the plumbing or heating industry, to purchase products from a wholesaler, manufacturer, or manufacturer's agent, who sells to others than the contracting and retail

The way to stop pipe-thread leaks
SMOOTH-ON No. 1 in a
SMOOTH-ON CLAMP
No interference with the bolts and nuts of a flanged joint

Applying Smooth-On No. 1 in a Smooth-On Clamp as indicated in the diagrams avoids disconnecting the line and with a few minutes easy work stops leakage at threaded joints as completely as putting in new and perfect fittings—and the finished repair is so small that it is hardly noticeable. If the pipe is covered, the repair cannot be detected at all. Smooth-On Clamps should be stocked for all sizes of piping in the plant.



The Smooth-On Handbook is filled with instructions, diagrams and helpful hints on at least 200 uses of Smooth-On in routine and emergency repair work. Your repair kit is not complete without a small supply of Smooth-On No. 1 and a copy of this instruction book, which will be sent free on request.

Get Smooth-On Clamps in pipe sizes of from ¾-inch to 12-inch and Smooth-On No. 1 in 1-lb. or 5-lb. can or 25-lb. or 100-lb. keg. If your dealer can't supply you, write directly to us.

SMOOTH-ON MFG. CO., DEPT. 12,
570 Communipaw Ave., Jersey City, N. J.

300% MORE CUTS
FROM EACH BLADE

NRA WE DO OUR PART

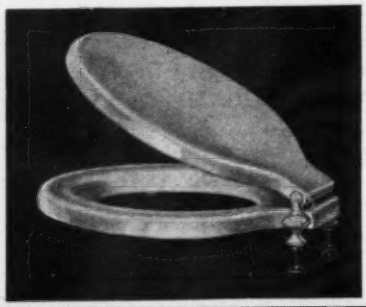
NOBODY sneezes at economy these days—and 300% more pipe cuts is real saving. But the RIDGID gives you more than economy—much quicker cleaner cuts and far less changing of cutter blades. And it costs no more than other cutters.

RIDGID
Cuts Pipe with a Blade —not with a wheel

That's the secret—a tool steel heat-treated blade held on a solid hub, a better cutting tool than can be made any other way. Note also that the cutter housing is steel reinforced and flatly guaranteed against breaking or warping. Altogether a nicely balanced slick-working tool. Try it and see. Your jobber has it.

THE RIDGE TOOL COMPANY
ELYRIA, OHIO, U. S. A.

RIDGID
PIPE WRENCHES, CUTTERS, VISES, THREADERS



BRUNSWICK sells only through plumbers!

Buy from a House That Protects Your Interests!

Many different trade-outlets are robbing the plumber of business that once was his exclusively. They threaten his very existence. When you specify Brunswick equipment, you are helping to protect your livelihood.

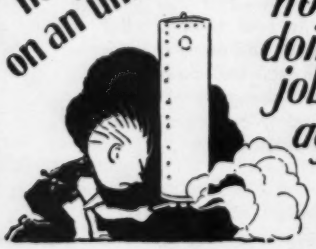
NRA WE DO OUR PART

THE BRUNSWICK-BALKE-COLLENDER CO., 623-33 S. Wabash Ave., Chicago

Brunswick

WHITE SEATS PYRALIN SEATS
WHALE-BONE-ITE SEATS

he took a chance on an "unknown" range boiler—



now he's doing the job over again!

It's downright foolish to risk the profit you work so hard to earn. Most plumbers know what it means to install a good range boiler—like PENNSYLVANIA. It's their profit and they know how to take care of it. Insist on PENNSYLVANIA Range Boilers—they represent a complete, high quality line of All Welded and Riveted & Welded Galvanized and Everdur Copper Range Boilers.

PENNSYLVANIA RANGE BOILER CO.
Established 1895
24th & Washington Ave., Phila., Pa.

PENNSYLVANIA RANGE BOILERS

plumbing and heating industry, provided, that the sale of products to federal, state or local goverenments, shall not constitute a cause for the invocation of the rule.

Marshall G. Erickson, chairman of the joint code committee of the Utah State Association of Contracting Plumbers, and the Salt Lake City Association of Licensed Plumbers, presided at the meeting. The members of this joint committee were: Mr. Higham, Jack Reeves, John W. Dudley, Charles Webb and Mr. Erickson, Salt Lake City; Charles Stone, Ogden; Leo S. Holbrook, Bountiful; Henry G. Blumenthal, Provo, and Henry Baugh of Logan.

Connecticut Heating Contractors to Organize

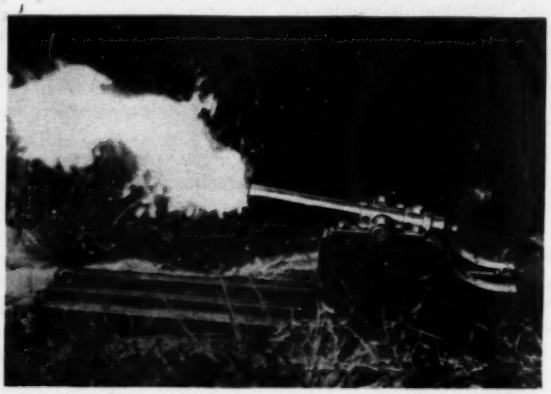
Connecticut heating contractors have been active during the past few weeks in organization work for the Heating, Piping and Air Conditioning Contractors National Association. Groups, later to be formed into local associations, have been formed in Waterbury, Hartford, Meriden, Danbury and New London. E. J. Daly of M. J. Daly & Sons, Waterbury, and Winfield S. Holman, of Danbury, have been leaders in the work.

Boston Heating Contractors Form Membership Division

The Heating, Piping and Air Conditioning Contractors Boston Association has recently formed a new membership division, open to heating contractors in the metropolitan area adjacent to Boston. This division makes it possible for heating contractors in the area to join the Boston group and participate in the administration and benefits of the proposed code for heating piping and air conditioning contractors.

Copper Tubing Stands Unusual Test

The strength of modern plumbing materials was dramatically demonstrated recently by two experimentors for the Chase Brass & Copper Co., who fired 12 gauge shotgun shells in a cannon whose barrel is a 10-in. length of ⅞-in. copper water tubing. The breech is a regular brass pipe adaptor sweated to the copper water tube barrel and closed by a pipe plug drilled to receive a steel firing pin. The trunnions of the cannon are saddle tees, sweated on and filed down to fit smoothly over the barrel. Despite the recoil shock that jolts the cannon into the air and slams it against the recoil blocks,



The camera caught the explosion just as the cannon hit the recoil blocks

these tees showed no sign of tearing loose. The barrel does not fit tightly around the shell (except at the extreme rear) but clears the barrel all around by about $\frac{1}{16}$ of an inch. This gives the powder gases more room to expand than in a

regulation shotgun, reducing the force to some degree. Heavy wads of damp cotton and paper are tamped down on top of the shell to insure the complete burning of the powder charge. "This experiment should not be attempted by anyone except men skilled in the technique of handling explosives," warns the man who built the cannon. "My advice is not to play with gunpowder—there is too much danger of serious injury."

New Jersey P. & H. Golfers Meet at Union, N. J.

The Plumbing and Heating Trades Golf Association of New Jersey held its monthly tournament at the Suburban Country Club near Union, N. J., October 19. H. Officer of Crane Co. was host of the day.

The kicker's handicap in the morning was won by C. Peirce and J. Miner, and both received a prize.

The prize winners in the 18-hole match were: Class A: 1st prize, F. L. Robinson; 2nd prize, J. Miner; 3rd prize, F. Engelberger; 4th prize, F. C. Stille. Class B: A tie between C. Peirce and A. R. Gasewind resulted in victory for Peirce and made him winner of 1st prize; S. H. Blackwood won second prize; E. Bluett, 3rd prize, and Joseph M. Buday, 4th prize.

There was a three-cornered tie for the cup—Robinson, Gasewind, and Peirce—and their names will therefor be inscribed upon it, and it will remain in their possession until next spring.

The afternoon scores follow:

	Gross	Net		Gross	Net
S. H. Blackwood	111	79	J. Miner	105	80
J. M. Buday	135	95	F. C. Stille	96	88
A. R. Gasewind	107	78	F. L. Robinson	96	78
F. Engelberger	105	85	E. Bluett	111	81
C. Morton Peirce	116	78	W. H. Lee	135	101
M. Swanson	126	..			

Master Plumbers Had Truck in NRA Parade

The Master Plumbers' Association, Inc., of West Hudson, N. J., was well represented in the five mile NRA parade which was recently held at Kearney, N. J. The truck entered in

West Hudson, N. J., Master Plumbers' truck in a recent NRA parade at Kearney, N. J.

the parade was illuminated with electric lights and received much applause from the onlookers. Many former members have recently rejoined the association, and business conditions seem to be improving.

Orange County, Calif. Plumbers Elect Officers

The Merchant Plumbers Association of Orange County, Calif., has elected the following officers for the coming year: President, Ernst J. Vosskuhler, 1516 West Sixth street, Santa Ana; vice president, Frank Wright, and secretary-treasurer, J. F. McConnell, Fullerton, Calif.

A Merry Christmas and Happy New Year To All!

and NOW
FOR YOUR 1934 PLANS—

•

The big question before you is—"What source of supply for 1934?"

The answer is worth much consideration from every possible angle. So much depends on it—profits or losses! We do know this—over a long period of years distributors of "Riverside" Products have come through successfully. There's a reason!

RIVERSIDE BOILER WORKS, Inc.
Cambridge, Massachusetts

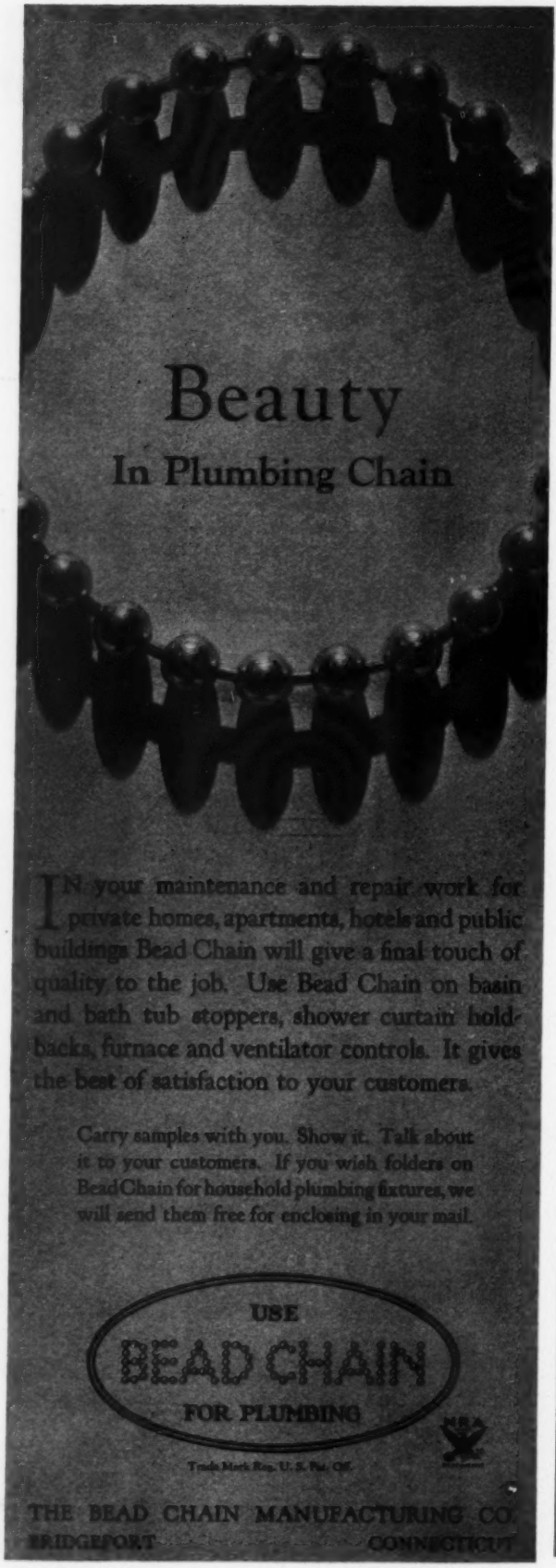
A Complete Line of Copper Boilers, Galvanized Boilers, Septic Tanks, Oil Tanks, Pneumatic Tanks, Automatic Hot Water Storage Systems, Large Copper and Steel Storage Tanks.

MADE FOR LONG RUGGED SERVICE

Boiler Tube Cleaners, Flue Brushes, Wire Heater Brushes, Handy Cleaner Brushes, Fire Brooms, Track Brooms.
Tempered Steel
The Worcester line is complete. Catalog gladly sent upon request.

NRA

WORCESTER BRUSH and SCRAPER CO.
10 AUSTIN STREET :: WORCESTER, MASS.


Beauty
In Plumbing Chain
IN your maintenance and repair work for private homes, apartments, hotels and public buildings Bead Chain will give a final touch of quality to the job. Use Bead Chain on basin and bath tub stoppers, shower curtain holdbacks, furnace and ventilator controls. It gives the best of satisfaction to your customers.
Carry samples with you. Show it. Talk about it to your customers. If you wish folders on Bead Chain for household plumbing fixtures, we will send them free for enclosing in your mail.
USE
BEAD CHAIN
FOR PLUMBING
Trade Mark Reg. U. S. Pat. Off.
THE BEAD CHAIN MANUFACTURING CO.
BRIDGEPORT CONNECTICUT

St. Louis Chapter of A. S. H. V. E. Elects Officers

The St. Louis Chapter of the American Society of Heating and Ventilating Engineers held its annual meeting in November and elected the following officers for the ensuing year: President, Paul W. Sodemann; first vice president, John W. Cooper; second vice president, C. R. Davis; treasurer, George Myers; secretary, A. L. Walters; board of governors: C. A. Pickett, James M. Foster, E. E. Carlson, and E. B. Evleth.

Through the courtesy of the American Blower Corporation of Detroit, Mich., J. D. Berkeley, sales manager of the Ross Heater & Manufacturing Company of Buffalo, N. Y., read a paper on "Decalorators—Steam Vacuum Refrigeration," describing the evolution of this refrigeration with the assistance of stereopticon slides, which proved of great interest to the 65 members and guests in attendance.

Obituaries—

Charles Eckerly

Charles Eckerly, formerly plumbing inspector at Birmingham, Ala., died at his home in that city on November 10, in his 75th year. He had been in poor health several years. A brother and a sister survive him.

F. Darker Haines

F. Darker Haines, engaged in the plumbing business at 647 North Preston street, Philadelphia, Pa., died at his home in that city on Wednesday, October 18, and was buried the following Saturday. He was a member of the Master Plumbers' Association of Philadelphia.

Christian F. Bachler

Christian F. Bachler, founder and senior member of the plumbing and heating firm of C. F. Bachler & Sons at 139 North Fourth street, Philadelphia, Pa., died at his home in that city on Sunday morning, November 5th, after one week's illness in his 78th year. Mr. Bachler spent the last 42 years of his business life in the heating and plumbing field. He was one of the founders of the old Monitor Steam Generator Mfg. Co., and he was also the inventor of a water tube steel boiler. He had a large circle of friends in the trade. Two daughters and two sons survive him.

William T. Smallman

William T. Smallman, long a figure in the heating business in Boston, died at his home in Malden, Mass., September 17, in his 76th year. Mr. Smallman entered the employ of Isaac Coffin & Company in 1879 and was actively asssociated with that company until the time of his death. serving for more than a half a century. He held various positions of importance in the Heating and Piping Contractors Boston Association and was active in church work, being chairman of the board of trustees of the First Universalist Church in Malden at the time of his death.

Henry M. Dechert

Henry M. Dechert, founder and president of the plumbing concern of Henry M. Dechert, Inc., of Buffalo, N. Y., died in the Millard Fillmore Hospital in that city October 10, after a short illness. He was born in Buffalo in 1870, received his education and learned the plumbing trade in that city. At the age of 21 he and his brother formed a partnership, which conducted a plumbing business for 30 years. This partnership was dissolved in 1922, after which Mr. Dechert and his son organized the plumbing concern of which he remained president until his death. Mr. Dechert was an active member of Buffalo Master Plumbers Association, and he was also a member of several fraternal organizations. His wife, one son and two daughters survive him.

New Trade Literature

Bulletins on Copper Plumbing and Fittings

Northern Indiana Brass Company of Elkhart, Ind., has issued several bulletins on copper plumbing and fittings, describing and illustrating its products, such as levers and ball cocks, waste and vent piping and fittings, drainage fittings, flush valves, etc.

Folder About Automatic Gas Water Heaters

Crane Company of Chicago is distributing a folder illustrating and describing its line of automatic gas water heaters and storage gas water heaters in various sizes and types to meet all requirements, including automatic, semi-automatic and hand operated.

Folder Concerning Compounds for Fitting Pipe

Technical Products Company of Pittsburgh, Pa., has issued a folder describing its various compounds for fitting pipe, including graphite paste, pipe dope, melting compound, porcelain patching cement, plastic porcelain, insulating paint, adhesive cement and plastic iron cement.

Bulletins on Closets and Lavatories

Universal Sanitary Manufacturing Company of New Castle, Pa., is distributing several bulletins and circulars illustrating and describing new models of noiseless water closets and of pedestal lavatories as well as lavatories with beveled chrome legs. These fixtures are made of vitreous china in colors that match.

Folders Announce New Bending Machine

Hays Manufacturing Company of Erie, Pa., is distributing two folders describing and illustrating its new bending machine, which is designed to bend hard or soft tempered copper pipe easily and speedily. This bender is machined in jigs. Only malleable iron and steel are used in its manufacture. To cover the great range of plumbing activity four benders are available, each one designed to bend only one size of pipe.

"Washroom Economy and Sanitation"

Bradley Washfountain Company of Milwaukee, Wis., has issued a folder, entitled "Washroom Economy and Sanitation," which illustrates and describes group-washing fixtures for factories, schools, and institutions of all kinds. The company's line consists of washfountains, group showers, shower-dressing room combination units, foot fountains and drinking fountains, all of which are illustrated in this folder.

Central Foundry Co. Issues Abridged Catalog

The Central Foundry Company of New York City has issued a very handy abridged catalog, 56 pages, 3½x5¾ in., with installation pictures, covering water supply and distribution, high pressure fire lines, gas distribution lines, and sewage disposal systems. Among the products featured are cast iron pipe with tight, flexible, machined iron-to-iron joint, fittings, including bends, tees, crosses, Y-branches, reducers, return bends, couplings for connecting to other types of joints, nipples, and lug rings, ratchet wrenches, hydrants and valves.

Catalog of Electric Water Heaters

The Merchandising Department of the Westinghouse Electric & Manufacturing Company of Mansfield, Ohio, has issued a 16-page catalog of its electric water heaters, which are designed in types and sizes to meet every central station load condition, and the great variety of applications required by home owners and other type users. The company's line, including storage tank heaters, strap-on heaters, and heaters of the side-arm circulation and immersion types are described fully in this catalog. The catalog also carries a gen-

The Only HACK SAW BLADE made especially to cut COPPER AND BRASS TUBING

—that saves the tubing from scratches, marring and cuts which ruin it.

—that leaves the tubing in perfect condition for a sweated joint,—with scarcely a burr.

—that eliminates false strokes.

—that cuts on the exact mark—will not slip off.

Thousands of shops are now using the MILFLEX DUPLEX Blade—it costs no more than the old fashioned blade.

MILFLEX DUPLEX PATENTED U.S.A.
HACK SAW BLADES

ORDER FROM YOUR JOBBER

The HENRY G. THOMPSON & SON CO.
New Haven, Conn.

SCOVILL

"Profitable Replacements instead of Petty Repairs"

WRITE this slogan on your cuff—and go out after modernization work! Make salesmen out of your journeymen. Follow up prospects yourself. And use Scovill equipment on every job you get! Scovill quality at today's low prices sells customers and keeps them sold. Ask your jobber for information, or write direct to:

SCOVILL MANUFACTURING COMPANY
WATERVILLE Plumbers' Brass Goods Division CONNECTICUT

Scovill Flush Valves—Shower, Bath and Lavatory Fittings —Tubular and Miscellaneous Plumbers' Brass Goods

SCOVILL

SCOVILL

COMPLETE THERMOSTATIC CONTROL

The volume of hot and cold water passing into the valve will remain constant at the degree at which the temperature indicator is set, because this is controlled by thermostatic coils.

This feature is as positive as day and night and is the reason for the growing preference for Leonard Water Mixing Valves.

LEONARD WATER MIXING VALVES

Write us for the Leonard story. Let us show you the profit possibilities on a Leonard installation.

LEONARD-ROOKE COMPANY
INCORPORATED 1913
PROVIDENCE RHODE ISLAND

In Miami Beach it's
The Fleetwood

Opening for the Winter Season
January first. European Plan.

An Exclusive Winter Resort Hotel, on Biscayne Bay, with Ocean Bathing, a Private Dock and every facility for the comfort and entertainment of its exclusive and discriminating clientele.

Rates Double from $8.00 to $20.00 per day.
A la carte service and Fixed Price Meals.

A DeWITT OPERATED HOTEL

THOMAS CAGWIN
Resident Manager

Other DeWitt Operated Hotels include:
In Cleveland its THE HOLLENDEN
In Chicago its THE LASALLE
In Columbus its THE NEIL HOUSE
In Akron its THE MAYFLOWER

FENWAY HALL, Cleveland's High Class Residential Hotel is also under DeWitt Management.

erous amount of illustrations and specifications so that the dealer can easily select the model desired.

Catalog of Asbestos Insulations

Acme Asbestos Covering & Flooring Company of Chicago has issued a catalog consisting of 16 pages, 8½x11 in. in size, and containing detailed descriptions and illustrations of its line of insulations, including pipe covering and blocks, asbestos air cell pipe coverings, high pressure pipe covering and blocks, wool felt pipe covering, anti-sweat pipe covering, ice water and brine covering, molded cork pipe coverings, range boiler jackets, underground heat conduit, stack lining, insulating cements and coatings, etc. Several tables of sizes, weights and thicknesses are included.

New Contractors and Incorporations

Bremerton, Wash.—The Bremerton Plumbing & Heating Company has started in business under the management of L. E. Bradley.

Cadillac, Mich.—Arthur Hilliar has opened a plumbing and heating establishment at Mitchell and Mason streets in this city.

Appleton, Wis.—Louis C. Phillips, Inc., has been incorporated with a capital of $7,500, to do a pipe contracting business. The incorporators are G. A. Phillips, L. C. Phillips and Hector Dachelet.

Detroit, Mich.—Schmitt & Berlinger, Inc., has been incorporated with a capital of $5,000, to conduct a plumbing and heating business at 15809 East Warren avenue.

Middletown, Conn.—C. Serra and T. D'Ascoli have formed a partnership under the name of the City Plumbing & Heating Co. and have started in business at 74 College street.

New Bedford, Mass.—Bolduc & Sons, Inc., has been incorporated to conduct a plumbing business. The officers of the company are: President, Azarie Bolduc; treasurer, Theodule A. Bolduc, 212 North Water Street, and secretary, Ovila G. Bolduc.

Waukesha, Wis.—The plumbing and heating firm of Haynes-Kramer-Friday Co., at 137 West Broadway, has been dissolved. F. W. Kramer and M. B. Friday have sold their interests to A. G. Haynes, who becomes sole owner after having been engaged in the plumbing business for 45 years.

Convention Dates

December 6-8, 1933.—A. S. R. E.—The annual meeting of the American Society of Refrigerating Engineers, in New York City, with headquarters at the Hotel New Yorker.

December 7 and 8, 1933.—The ninth annual Conference on Welding at the Purdue University, Lafayette, Ind.

January 16, 17 and 18, 1934.—ILLINOIS.—The 41st annual convention of the Illinois Master Plumbers' Association, at Quincy, Ill., with headquarters at the Lincoln-Douglas Hotel.

January 23 and 24, 1934.—WISCONSIN.—The annual convention of the Wisconsin Master Plumbers' Association in Milwaukee, with headquarters at the Hotel Schroeder.

February 5 and 6, 1934.—WEST VIRGINIA.—The annual convention of the West Virginia Master Plumbers, at Charleston, W. Va., with headquarters at Kanawha Hotel.

February 5-8, 1934.—A. S. H. V. E.—The annual meeting of the American Society of Heating and Ventilating Engineers, in New York City.

February 5-9, 1934.—I. H. V. E.—The third annual International Heating and Ventilating Exposition at the Grand Central Palace in New York City.

May 5, 1934.—I. M. P. A.—The annual convention of the Idaho Master Plumbers' Association, at Boise, Idaho.

May 21 to 24, 1934.—C. M. P. A.—The annual convention of the California State Master Plumbers' Association, at Sacramento, Calif., with headquarters at Hotel Senator.

Women's Activities

By DOROTHY EDWARDS

St. Louis Auxiliary Re-Elects Officers

The Women's Auxiliary of St. Louis, Mo., held its annual meeting recently and re-elected all its officers. They are: President, Mrs. James Fowler; vice-president, Mrs. H. J. Mersman; secretary, D. E. Hannegan; treasurer, Mrs. Jos. Suda, and sergeant-at-arms, Mrs. B. Braun. The auxiliary held a most successful card party at the St. Louis Dairy on Friday, November 17.

Denver Auxiliary Elects Officers

The Ladies Auxiliary to the Denver, Colo. Master Plumbers Association met on November 20 with Mrs. John Hensler. A delicious luncheon was served at 1 P. M. Plans were made for a Christmas dinner to be held December 23.

On November 6 Mrs. Kiser entertained, and at this time the election of officers took place with the following result: Mrs. C. R. Cooper, president; Mrs. F. X. Kreidle, vice president; Mrs. H. H. Mellema, secretary; Mrs. J. P. Brickey, treasurer, Mrs. F. X. Bordeau, corresponding secretary, and Mrs. Julia Hensler, sergeant-at-arms.

Mr. and Mrs. F. Hanlin held a halloween party at their home on October 28 for the auxiliary members and their husbands. A very delightful evening was spent playing cards, honors going to Mrs. V. A. Kiser and Mr. A. J. Adshade. Delicious refreshments were served by Mrs. Hanlin, assisted by her daughter and husband, as well as Mr. and Mrs. Fred Ulrich.

Milwaukee Auxiliary Holds Big Card Party

The Milwaukee, Wis., Women's Auxiliary met on November 10 to hold a Pivot Pillow Case Card Party at the Elks' Club. There were 82 tables of cards. The prize at each table consisted of a pair of attractive pillow cases. The fund raised was used to fill Thanksgiving baskets for the needy master plumbers and their families, also needy journeymen and their families. The auxiliary was honored to have as its guest Mrs. Robert Liss of Chicago, National president, at a meeting on November 6. She talked on the Scholarship Fund, and later at a dinner at the Elks' Club Mrs. Liss addressed a large number of members.

On December 4, at the regular monthly meeting, the annual election of officers will take place.

Rochester Auxiliary Plans Christmas Party

The Rochester, N. Y., Auxiliary met at the home of Mrs. C. A. Bliss on November 8. Plans were made for a Christmas party. Later cards were played and prizes awarded.

Lakeland Auxiliary Elects Officers

A meeting of the Ridge Section of the Women's Auxiliary to the Florida Master Plumbers Association was held in Lakeland recently at the home of Mrs. Lee Phillips, president of the Florida Division. Nine members were in attendance, four of these being new members. The meeting was held for the purpose of making plans for the work throughout the year and keen interest was shown in proposed plans for the annual state convention as outlined by Mrs. Phillips. Guests of honor were Mr. and Mrs. D. A. Mayfield, Jacksonville, Mr. and Mrs. Foster R. Fanning, Winter Park, and

No Fitting More Attractive

H-3611

Or useful on a lavatory than this Mueller H-3611 Combination.

It combines beauty of form with excellent service.

Its permanent Chromium plate insures lasting lustre.

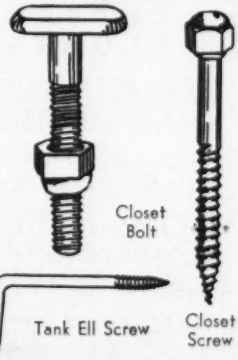
MUELLER CO.
Decatur, Ill.

"ACME" HANDIPAK
with
A WASHER FOR NEARLY EVERY PURPOSE

The name "ACME" is stamped on every washer.

"ACME" Bibb Washers are new from the time they are placed in your hands until you are ready to use them on the job. They come to you in seven sizes packed 100 in a screw top can, or in the "ACME" HANDIPAK, which contains 100 Washers in seven assorted sizes. Your jobber carries them.

LAVELLE RUBBER COMPANY
320 WEST ILLINOIS ST., CHICAGO, ILL.



PLUMBERS' SPECIALTIES

If it is a question of Plumbers' Specialties, the answer should be HINDLEY Specialties.

From the Hindley complete line, shown on page 551 of Domestic Engineering Plumbing and Heating Catalog you will find money and time savers that you should become acquainted with.

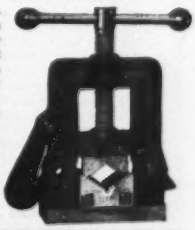
HINDLEY MFG. COMPANY
Valley Falls, R. I.

Look for the Arm-and-Hammer

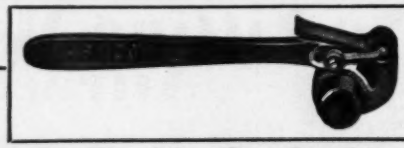
ARMSTRONG BROS.

Patented CHAIN VISE *and Patented* VISE SADDLE

Light, compact, strong, over-capacity, this is the Chain Vise to take on the job. 1-piece jaw prevents the bending of smallest pipe under chain — permits a tight hold. Jaws, base and handle are drop forged steel; screw is alloy steel. The Pipe Vise Saddle attaches instantly to any square or round post. It provides a solid base for chain or hinged vises *at the point of work.* Write for Catalog P-10.



ARMSTRONG BROS. TOOL CO.
"The Tool Holder People"
323 N. Francisco Ave. CHICAGO, U. S. A.



• WARNOCK •

Triple Wear Wrenches

The Warnock wrench is easyto adjust. The strap is arranged in such a way that it can be drawn absolutely tight in *one* movement. Notice, too, that this strap is triple folded at the point of greatest strain.

For chrome, brass and nickel plated pipe

WARNOCK MFG. CO., Worcester, Mass.

Note these Quality Features!

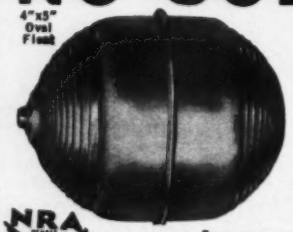
Air Tested under water
Made of Red Brass
Accurately Threaded
True Dimensions

A profitable line for the plumber. Write for catalog.

ACHESON MFG. COMPANY
Factory & Office: Rankin, Pa.
Warehouse—197 Lafayette St.
New York, N. Y.

ACHESON
BRASS FITTINGS

NO-SOL COPPER FLOATS



QUALITY MERCHANDISE
does most to stimulate
CONSUMER CONFIDENCE

Incorporated 1907

THE AYLING & REICHERT CO.
3047 NORTH ERIE STREET TOLEDO, OHIO

THE "MODERN" RANGE BOILER

30, 40 and 50 Gallons
200, 250 and 300 lb. Test

Pat. No. 1883949

In the above capacities the top and body of the "Modern" Boiler is formed from a single extra-heavy Copper Shell and drawn cold-seamless to the bottom, thus eliminating the top joint and the side seam and leaving only a bottom joint. The bottom head is hydraulically pressed on the shell and riveted securely with Copper Rivets closely spaced. Over the rivets a seamless copper band is spun and sweated, reinforcing the joint and making a solid construction which is impossible to come apart under any circumstance. Every boiler is reinforced internally and guaranteed against collapse. The interior is thoroughly tinned.

Sold Through Wholesalers Only

HAYES MFG. CO., Paterson, N. J.
Established 1870

Mrs. W. E. McAndrew, Tampa. The election of officers resulted as follows: Miss Myrtis Mann, Winter Haven, president; Mrs. E. M. Watts, vice president; Miss Catherine Rogers, secretary, and Mrs. J. E. H. Dorsett, treasurer, all of Lakeland. At the close of the meeting a covered dish supper was served.

Cincinnati Auxiliary Enjoys Delightful Luncheon

The Women's Auxiliary of the Master Plumbers Association of Cincinnati, Ohio, held its regular monthly meeting at the Y. W. C. A. building on November 7. Following a most delightful luncheon, a business meeting was held. Later the social hour was spent in playing cards, with honors going to Miss Alma Niesen and Miss Clara Mason.

Pasadena Auxiliary Enjoys Surprise Luncheon

The Pasadena, Calif., Women's Auxiliary held its monthly meeting on November 17 at the home of Mrs. H. F. Lohman. There were 12 in attendance. Plans for doing some constructive charity work were discussed. The ladies sewed following the meeting, and later Mrs. Lohman served a surprise luncheon. The table was decorated with lovely chrysanthemums. On December 15, Mrs. R. N. Batterson will entertain.

Past presidents of the Pasadena Auxiliary, left to right: Mesdames D. Chapman, A. R. Benedict, W. F. Culler, W. H. Swihart, and Mrs. A. C. Hanson

Queensborough Auxiliary Gives Barn Dance

The Women's Auxiliary to the Queens Master Plumbers Association held a most successful old fashioned costume barn dance at the Masonic Temple, Forest Hills, N. Y.

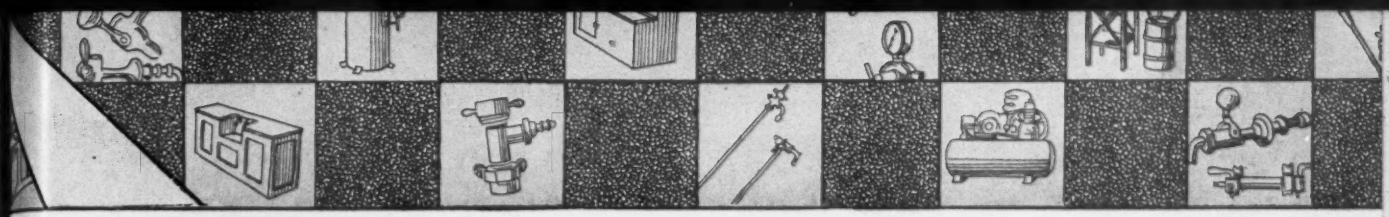
Over three hundred turned out for the frolic, the majority in old "hay-seed" costume. The hall was appropriately decorated with corn stalks, pumpkins, autumn leaves, and apples and gay balloons on strings.

Bronx Auxiliary Gives Benefit Card Party

On November 23, the Bronx Women's Auxiliary together with the master plumbers gave a benefit card party. The committee consisted of Mrs. George Oches, Mrs. Geo. Arnone, Mrs. T. Grant, Mrs. W. Ebner, Mrs. Tulley, Miss Roth, Mr. Alfred Beyrodt, Mr. Woodward Ebner, Mr. H. Sugarman, and Mr. I. Tarlow.

Death of Alice E. Krusz

Alice E. Krusz, wife of Philip Krusz, a past president of the Master Plumbers' Association of St. Louis, Mo., died at her home in that city on Sunday, November 12. Mrs. Krusz was a charter member of the St. Louis Auxiliary.



BEER *and* BAR EQUIPMENT

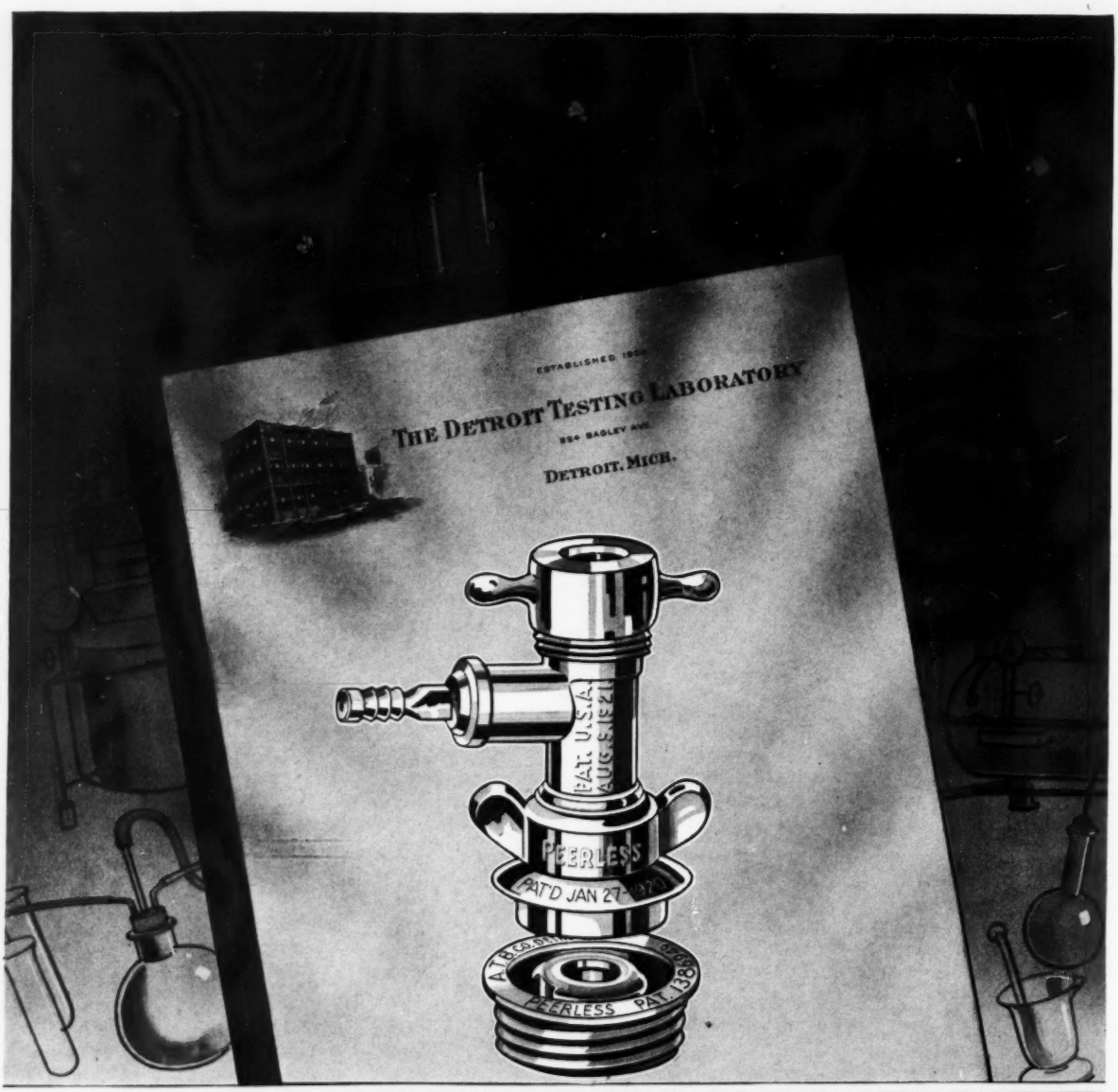
SECTION OF DOMESTIC ENGINEERING

Equipment Sales by Brewers Are Barred

Code of brewers prohibiting sales of equipment to store owners is favored by federal government—Brewers at public hearings protest such sales.

(See Page 106)

December, 1933



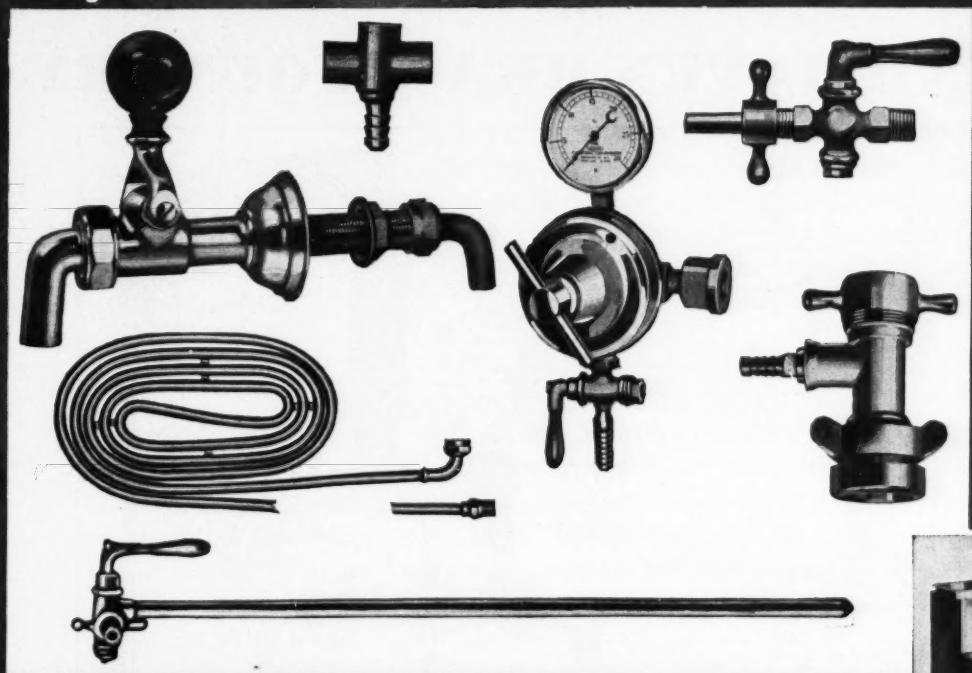
120% BETTER PROTECTION

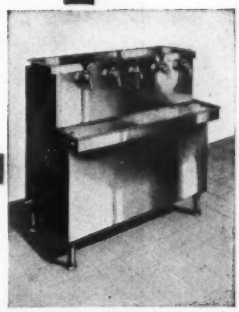
Out of The Detroit Testing Laboratory, a few weeks ago, came an amazing report. "The new Peerless Tap provides 120% better sealing qualities" . . . Among the majority of our well known Brewers and Dispensers, Peerless has always been the standard of efficiency. It is known as the one system which provides those refinements of design that assure the safe delivery of a delicate beverage . . . Now, a change in the internal construction of the Peerless Tap doubles its protective value . . . The Peerless System is self-centering, sanitary, simple, durable, positive and economical. For guaranteed results, demand that both tap and bush be Peerless . . . American Tap Bush Company, Detroit, Michigan, Manufacturers of Beer Handling Equipment for over 38 years. New York Sales Office . . . 717 General Motors Bldg., Phone Circle 7-4146.

PEERLESS TAPPING SYSTEM

IF YOU WANT BUSINESS

..from the Big Bar Market...





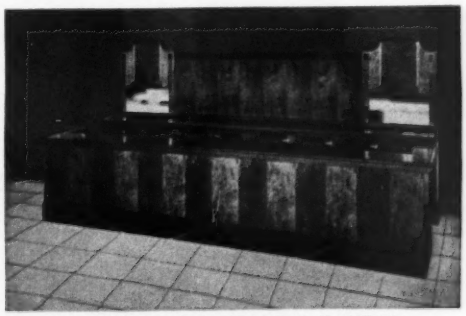
Red Diamond Beer Cooler and Dispenser for Four Coils

EVERYTHING points to more and more beer drawing equipment installations. Beer service will be more general and unrestricted than the service of wines and liquors—yet where they are served, beer will usually accompany them. That means business.

Establish yourself for installations, and service to this fast moving market. The cooperation of the big "Liquid" organization and the complete "Liquid" line will make you local headquarters for this work.

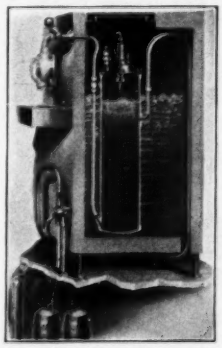
"Liquid" Beer Drawing Equipment includes Beer Coolers of all types—the Liquid-Zahm Beer Drawing System for finest quality dispensing—full length Bars—and all accessories down to tapping bungs, fittings and gauges.

Write for the new "Liquid" Catalog illustrating and describing the full line.



"Liquid" Modern Bar and Back Bar in Hard Woods

The new Liquid-Zahm Controlled Pressure System makes it possible to draw each stein uniformly without wasting a drop. Correct pressure assures clear body and foam of good consistency.



Liquid

Modern Bars and Beer Drawing Equipment

THE LIQUID CARBONIC CORPORATION

3100 SOUTH KEDZIE AVENUE, CHICAGO, ILLINOIS

CHICAGO SALES ROOM: 619-621 SOUTH WABASH AVENUE

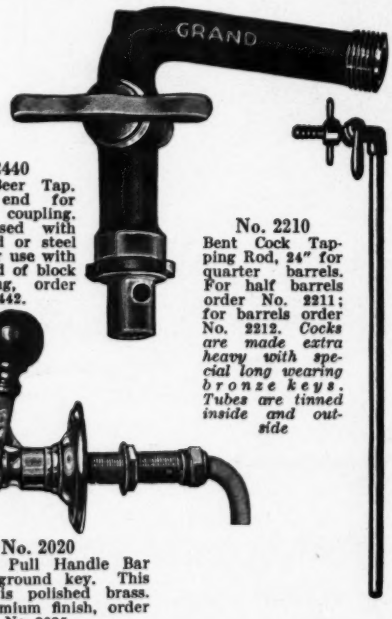
NRA WE DO OUR PART

BRANCHES IN 37 PRINCIPAL CITIES OF THE UNITED STATES AND CANADA—LONDON, ENGLAND—HAVANA, CUBA

Brass Specialties
by
GRAND HAVEN BRASS FOUNDRY

No. 2100
"Grand" Water Faucet, polished brass. For chromium finish, order No. 2115.

No. 2000
"Grand" Quick Opening Beer Faucet, polished brass. No regrinding, easy to clean. For chromium finish, order No. 2015.



No. 2440
"Grand" Beer Tap. Threaded end for block tin coupling. Can be used with either wood or steel barrels. For use with hose instead of block tin coupling, order No. 2442.

No. 2210
Bent Cock Tapping Rod, 24" for quarter barrels. For half barrels order No. 2211; for barrels order No. 2212. *Cocks are made extra heavy with special long wearing bronze keys. Tubes are tinned inside and outside*

No. 2020
"Grand" Pull Handle Bar Faucet, ground key. This number is polished brass. For chromium finish, order No. 2025.

No. 2430
"Grand" Beer Tap.

No. 2441
"Grand" Air Tap.

No. 2215
"Grand" Beer Tap.

No. 2443
"Grand" Beer Valve for wood barrels. For steel barrels order No. 2444.

WRITE FOR CATALOG AND PRICE LIST

GRAND HAVEN BRASS FOUNDRY
GRAND HAVEN MICHIGAN

Serving a Bigger Market

The 14-year effort to legislate the liquor industry out of business by a strict national prohibitory law has ended. The much discussed 18th amendment to our constitution has been repealed by the 21st amendment.

Prohibition ends with an industry better prepared to meet the new market than met the return of beer. The relegalization of the milder beverage caught almost everybody unawares. Manufacturers were rushed to re-establish old plant methods, to design equipment, to find new distributors and dealers. The demand was so terrific in the first days of last spring that confusion and delay and mistakes were a natural sequence.

Distributors and dealers had to be located and trained. The seller had to learn the intricacies of the equipment he sold because the buyer was equally new at the business. Stories are still common telling of the lack of care which dispensers give to their beer. Brewers in turn have been aroused to this need and are checking much more carefully the services and equipment of the dispenser, realizing that careless handling is spoiling the brewed product and losing customers for both the store owner and the brewer.

An equal lack of knowledge regarding liquor handling is to be expected from many of those who will dispense it. The care of the liquors is not as vital as in the case of beer but its service in untrained hands can be a brake on trade development.

In the field of distribution, where the interest of our readers is greater, the months since last spring have seen a great and significant change. As with some manufacturers who entered the market, some dealers have tried out the new market and given it up. Others have made a success. The market has gotten over its first rush, and has settled down to a more normal, major industry. The end of prohibition gives it another big forward push.

Quality products, trained and aggressive dealers and emphasis on customer satisfaction are essentials in building up any industry. The experience of the past eight months has proved this again and the manufacturers and readers aided by this publication are prepared to give a similar service now that their market is again enlarged.

Repeal Brings Big Demand

End of Prohibition Opens Market for Many Products

THE end of the prohibition experiment finds both manufacturers and dealers in beer and bar equipment facing a tremendous increase in the demand for their products and services. While considerable uncertainty prevails in many localities concerning the character of the new laws which are being written and will be enacted, it is the impression of many who recall the uncertainty which followed the hasty re-legalization of beer last spring, that present conditions will quickly be cleared up.

With the straightening out of local and state conditions, every indication points to a heavy demand on those capable of supplying satisfactory beer and bar equipment.

While the factors which must be cleared up seem numerous at the present time, a number of significant developments justify the belief of those who are counting upon a big and expanding market. For one thing, the record breaking speed with which the 18th amendment was overthrown promises that the new laws passed to give effect to these new conditions will lean more toward the release from prohibitory statutes rather than toward the passing of additional ones.

READY FOR MARKET

The experimental work which has been done with codes in other industries during the past few months is depended upon to guide the work of the government in the passage of federal legislation. Probably the new measure of self-control which is being more freely offered to other industries can be expected to relieve the distillers from some of the close supervision which a few months ago was thought necessary in carrying forward the NRA program.

Another significant change has been the education during the past eight months of a group of manufacturers and dealers in the new task of supplying equipment and service to beverage dispensers. Plants have been put into efficient operation, engineering plans have been completed, sales forces have been trained and distributor and dealer relationships established, all of which were missing last spring when beer suddenly came back. As a result of this, the companies which will be called upon to serve this new market are in far better position to satisfy both the sudden and the long time requirements of that market than they were in the hurried days of last spring.

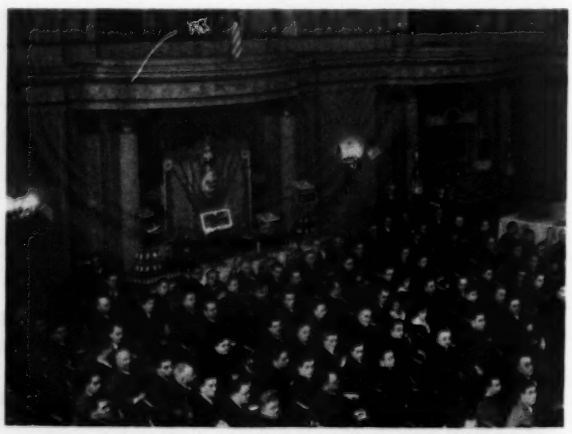
A code, probably a tentative one, has been put up to the distiller as a part of the President's insistence upon having some measure of control in effect until Congress meets in January and tackles the work of passing new legislation. Many state legislatures or their especially appointed committees have been meeting and some state laws have been enacted. In others, prohibition repeal becomes effective without any liquor legislation having been provided. Various cities have passed ordinances in an effort to control local conditions. The legislative condition reflects the haste with which efforts have been made to meet liquor's return and it is probable that most of this hurried legislation will be re-drafted later.

Another sign showing the assurance of many that this market will open with a heavy demand but will tend to increase rather than decrease, is the surprising activity in distributing information on the proper serving of liquor. Just as the manufacturing and sales organizations had to be assembled and trained, so efforts are being made in great number today to widen the public's knowledge of liquors, of the methods of serving them and of the proper equipment for use with various kinds of liquors.

Draw Big Crowds to Learn About Serving Beer

The opening of the market, first for beer and now through the repeal of prohibition to all kinds of beverages, caught manufacturing, selling, and serving agencies largely unprepared. In the months since beer came back, the manufacturing programs have been put into shape. Selling organizations are better trained. But the proper serving of beer is still in the hands of many untrained men.

As a step in training the distributors and dispensers to know more about the care of beer, the Frigidaire Corporation of Dayton, Ohio, has held more than 40 huge meetings all over the country. Dealers were told of the problems in caring for beer and serving it properly. The illustration shows a portion of the crowd at the Cleveland meeting.



for Beer and Bar Equipment

Federal Code Bars Sales of Dispensing Products by Brewers

(By a Staff Correspondent)

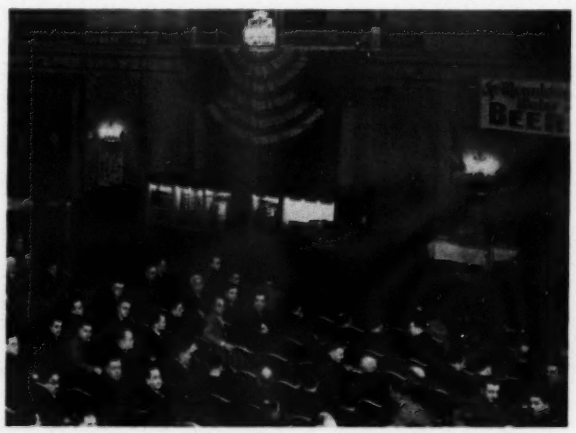
AN amended, substitute government-drafted code for brewers was submitted to the brewing industry, at their joint AAA and NRA hearing for a proposed code of fair competition, by the President's Special Committee on the Control of Alcohol and Alcoholic Beverages on November 27, in Washington, D. C.

By this code, brewing would be subject to the same regulative control of the Federal Alcoholic Control Administration as distilled spirits, except that production control is not deemed necessary. Labor provisions of the code are under the NRA jurisdiction and other sections under the AAA.

Wright Clark, presiding officer at the hearing for the Agricultural Adjustment Administration, introduced Dr. E. G. Greenbaum, who representing the President's committee, presented the amended substitute code and stated that the committee is committed to certain policies, including the principle of a federal alcoholic control administration, included in the distillers' code signed by the President.

This amended, substituted code also contains provisions relating to permits, prices and terms of sale, and control of plant capacity and production, which were not included in the code submitted by the industry. Except for the provisions for the control administration, these features were placed in the amended substitute for discussion.

The brewers objected to controlling 3.2 per cent beer by the government under the same regulations as beverages of higher alcoholic content and appealed for a separation so as to place 3.2 per cent beer under a separate code.



William Piel, president, Piel Brothers, Brooklyn, N. Y., objecting to such a government control of 3.2 per cent beer said: "In the judgment of my company, the fact that a very small part of the national beer output of the industry will be de facto intoxicating, does not justify common control with wine and distilled spirits. We earnestly urge you not to stampede 3.2 per cent beer into the corral of common control because of the few black sheep, beer of higher alcoholic percentage."

Also opposing the proposal for Federal control was Representative Emanuel Cellar of New York, who emphatically stated: "Beverage industries are surprised at the potent and powerful control proposed by the government. Congress never intended such control when it passed the NRA. Congress may resent this poaching on its preserves."

In reply to these objections, Dr. Greenbaum informed the brewers that the hearing was solely for the purpose of presenting the proposed code for the industry in order that evidence be developed so that it could be used in working out the policies which are later on to be incorporated in the amended or substituted code and that the code submitted by the government is not to be regarded as the expression of the final views of the President's committtee.

BREWERS AGAINST EQUIPMENT SALES

R. A. Huber, vice president of the U. S. Brewers Association and also of the Anheuser-Busch Co. of St. Louis, spoke at length on the unfair trade practices which the industry proposed to abolish, comparing them with the sections of the code submitted by the President's committee. Generally, he pointed out, the industry's proposals are broader and more drastic than the government's, but the government code includes labeling, filling and commercial standards to which the industry took exception.

He dwelt at some length on Section 12, Article VIII of the government's substituted amended code, stated it was agreeable to the brewers and although it is not as far reaching as that similar section in the brewers' code, he believed it would properly take care of and prevent the so-called "tied houses" of pre-prohibition days.

Reading this section, which is as follows:

Section 12. Equipment and fixtures. To furnish, give, rent, lend, or sell any equipment, fixtures, or supplies, directly or indirectly, to any trade buyer. Nothing herein shall be construed to prohibit the sale to any trade buyer by members of the industry of such equipment, fixtures, or supplies now owned by them and now installed in retail premises; Mr. Huber stated: "There are conditions existing in the brewing industry which relate back many, many years. Many have fixtures

(Continued on Page 129)

Brewers are adopting the rule that their beers are to be sold only where they are properly served. Blatz Brewing Co. outlines its suggestions in the following

Recommendations for Quality Bar Installations

This Article Continues a Series

GOOD beer can be utterly ruined if mistreated at the hands of the retailer.

The three most important items in the handling of beer by the retailer are: *sanitation, refrigeration and carbonation.*

SANITATION

A sedimentary residue is latent in all beer. This comes from the hops, and malt, and other solids used in its manufacture. Small portions of this sediment attach themselves to every object with which they come in contact.

Beer is drawn from the barrel through several feet of block tin pipe only 3/8 inch inside diameter, to the faucet. In the course of time this small duct becomes lined with the sediment until it reaches the point, if not removed, where it will almost completely block up the passage. If permitted to remain it will impart a disagreeable and very obnoxious flavor which will drive customers away faster than the most energetic efforts can bring them in.

Beer pipes should be cleaned at least once a week, preferably oftener. Unless this is done the sediment becomes rancid enough to taint the flavor, if not utterly ruin it. Unless frequently and regularly cleaned, one cleansing process will not remove the entire depth of the coating, leaving the worst part of the sour sediment remain in the pipes and taint everything that flows through it.

REFRIGERATION

A common solution of chlorine, or other cleansing preparations, may be obtained at any beer pump or brewery supply house. In cleaning the pipes, it must be borne in mind that the rod (the hollow pipe that goes through the entire length of the barrel) is not cleansed with the same action that takes care of the piping. The rod must be taken out and cleaned separately or the whole job would be in vain.

Proper temperature is extremely essential in the care of beer. If too cold the flavor is killed. The proper

temperature is about 40 degrees, never below 38 degrees or above 45 degrees. Flavor once chilled out of beer, never comes back.

The beer pipes, or coils, usually lie at the bottom of the cooling compartment. Cooling is done either mechanically or with ice. When the latter method is used, the chopped ice for packing is put over the coils which, in the process of melting, keeps the temperature inside the coil around 40 to 42 degrees. To keep this ice bath replenished and in condition is one of the fine essentials of handling beer. If beer is permitted to become warm, the gas escapes too rapidly, thus leaving the beer flat and unpalatable.

CARBONATION

Beer pressure, of course, must be regulated according to the equipment, depending upon the distance between the barrel and faucet. Too much pressure will cause beer to spurt out of the faucet and cause much waste. This not only has an effect on the retailer's profits but also on his customers.

At the close of the day's business see to it that the keg, which at that time is partly empty, has enough pressure in order to keep the beer from becoming stale or flat.

See to it that all connections are tight and free from leaks. If business is suspended for several hours, it is advisable to draw off and waste a few glasses of beer that might have gone stale while resting in the pipes.

Do not try to save expense of keeping your premises or beer drawing apparatus in a sanitary condition, nor save on ice or proper refrigeration. To do so is practicing false economy.

PROPER METHOD OF HANDLING BOTTLED BEER

Bottled Beer should always be stored right side up and in a dark place. Keep away from heat and poor ventilation. Cool in refrigerator or place on ice. Cooling period varies from one to four hours depending on method of refrigeration—keep cold 42 to 45 degrees. Do not keep Bottled Beer on ice or at extreme low temperature from one day to the next. Remove, when closing, to allow return to normal temperature—then re-ice again the following day.

HOW TO IMPROVE KEG BUSINESS

Draught Beer, to be palatable and appetizing, must be kept fresh—and cool—clean—and wholesome. Being as perishable as milk, it should be kept in a cool, even temperature; not only the tapped keg, but those which are to be tapped next. Clean the pipes at least once a week. One way to do this is to take an empty keg, fill one-half full of clean water and add two handfuls of salt. Run this solution through the pipes with pressure, allowing it to remain in the pipes over night. In the morning, flush the "run" with fresh water until it runs clear. Some method of cleaning should be used regularly.

(Continued on page 114)

Beer is now being served for the first time in the passenger station of the Chicago & North Western Railroad at Chicago

Good Equipment and Dealer Education

The following letter comes to us from a wholesaler in beer and beverage equipment for hotels, restaurants and stores. It tells of the methods used in building up a large business, of the types of dealers who proved successful and of the variety of equipment which is sold.

To the Editor:

Referring to your original inquiry in reference to the publicity the United Supply and Equipment Co. used in developing business on beer equipment, we believe that your readers will be interested to know that the executives of our concern were allied in lines kindred to the bottling and beer equipment industry for twenty-five years, previous to the Prohibition era. Therefore, guesswork was eliminated and the various problems were met in an intelligent manner so as to avoid grief.

When it became evident that beer of a higher alcoholic content was going to be sold, we investigated the possibilities and immediately we noticed the fact that a large number of poorly built beer dispensers were going to be made up by inexperienced manufacturers.

FORESAW POOR INSTALLATIONS

We could readily see from this type of inexperienced manufacturer, and the hurry in which equipment would be set up, that installations would be made without any scientific knowledge on their part, and that they would be a source of grief to the beer dispenser.

The brewer, during all this period was too busy to realize that his product was going to be abused, and that, eventually, due to a faulty and inefficient drawing apparatus, his prestige would suffer in many cases.

At considerable expense, we set up an educational campaign, and circularized license holders and others interested in the dispensing of beer, acquainting them with the fact that a discriminating public would not tolerate a poor product, and that it was good policy on the part of beer dispensers and distributors to put in adequate and proper equipment as recommended by the more experienced persons in the business.

We dodged every effort of manufacturers who lacked experience in building equipment, who tried to induce us to handle their product. We felt that by using the highest quality products obtainable, our customers would be our best advertisers; and that with quality products we could build a permanent and profitable business.

CUSTOMERS ARE SATISFIED

It was a surprise to us to learn that a large portion of our business came through the recommendations of those for whom we had originally installed units, and who found them perfectly satisfactory. We figured no sale completed unless the unit worked to the satisfaction of the customer, and we are pleased to state that the total expense involved in adjustments on the equipment we installed, has amounted to less than twenty dollars.

We originally lost some sales due to the fact that we refused to meet competitive prices, knowing that the installation recommended by our competitors would not be satisfactory.

Our judgment in many instances has proved to be correct, for we have been asked to equip over again hundreds of installations at considerable expense to the customer, on which we would have saved him much annoyance if he had accepted our recommendations.

We spent a great deal of time in an educational campaign with the plumbers. In each instance where a plumber approached us, we made a personal survey of the proposed installation, and recommended the proper type of equipment. We have helpful literature to send the plumber, and offer him full cooperation and adequate commission for his efforts on all his requirements.

We have avoided disseminating any misleading information, such as is contained in some circulars issued by those who have had little or no experience previously in the manufacture of beer equipment.

PROTECT QUALITY OF BEER

Our main argument to prospects is to point out the fact that so many dealers are serving a poor glass of beer, although using good brands. This is owing to improper installation, and he is unable to overcome the handicap. In this connection, we have traced as many as twelve distinct causes of faulty installation, any or all of which may be causing him trouble. We point to the fact that the average restaurant man prides himself on the quality of his coffee—this being almost his first thought when he opened his restaurant, and he takes

Gentlemen:

Are you having beer dispensing trouble?

Let us check your equipment without obligation or cost to you. We will advise you on any difficulty that you may have.

If you are having trouble, it is probably one or more of the following:

FOUL ODORS
BEER TOO WARM
LOSS OF BEERSTONE
DOES NOT RETAIN HEAD
COST OF PRESSURE PER BARREL EXCESSIVE
TOO MUCH TIME SPENT DRAWING GLASS OF BEER
DRAWING INSUFFICIENT NUMBER OF GLASSES PER BARREL
FIRST FEW GLASSES DRAWN ALWAYS WARM
--- AND MANY OTHERS

Our twenty-five years of experience is at your service, and little suggestions are worth many dollars to you. Just sign and mail the enclosed card. Do it NOW!

Very truly yours,

UNITED SUPPLY & EQUIPMENT COMPANY

Type of letter which helped to attract customers

Build Up Business

very particular care in every step in the making of his coffee. When beer came in thousands changed from coffee to beer, with the result that if the customer did not get a good glass of beer, little comment was made by him at the time, but he soon found another restaurant where the beer was drawn to his liking; and so instead of increasing the business of the restaurant in the food line, the customers seemed to drift to other places. We have often told a prospect that it would be better for his business if he sold no beer at all rather than to serve through cheap equipment.

The plumbers have appreciated the fact that our experience has permitted them to install the right kind of equipment in a satisfactory and profitable manner.

MANY ITEMS ARE STOCKED

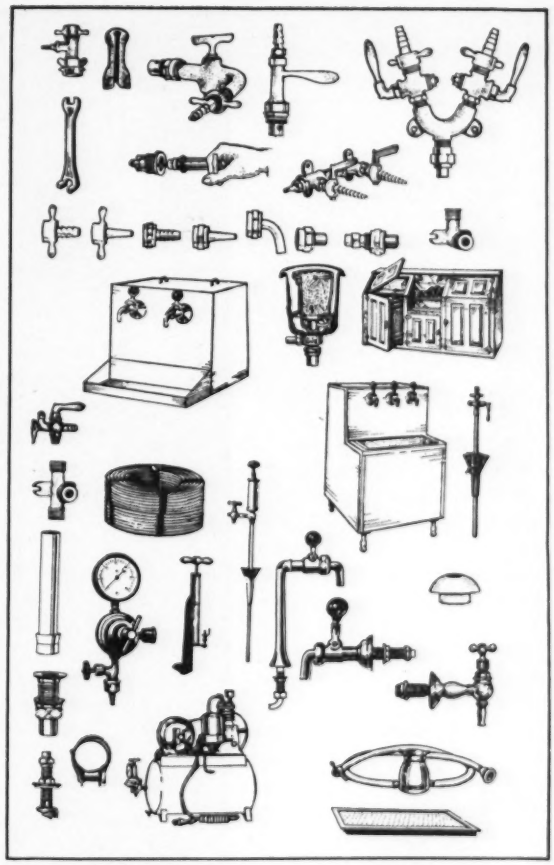
We also stock a number of additional lines, such as beer glasses, accessories and supplies, making it possible for the beer dispenser to obtain his full line from one single source of supply.

You may be interested to know that our management is well acquainted with the wholesale and retail liquor supply line. And preparations and plans are being formulated for an expansion of our lines to include machinery and supplies, a good portion of which can be handled profitably by the plumber.

We enclose our circulars, and a close reading of the recommendations made, will bring out our points in regard to quality.

We look forward to a healthy expansion of our business based on a high ideal of quality merchandise and customer satisfaction.

(Signed) United Supply & Equipment Co.
Boston, Mass.



Some of the many items illustrated on special, large card to acquaint dealers with what they would need for complete installation

De Luxe Catalog of Beer Dispensing Equipment

The Bastian-Blessing Company of Chicago, Ill., has issued an exceptionally attractive catalog of its beer dispensing equipment, emphasizing the need of high grade equipment in order to be able to serve good beer. The popularity and profits of a beer retailer depend upon his equipment. Beer is a delicate beverage, this catalog states, and it must be handled correctly from brewer to dealer, and from dealer to consumer to retain its true quality. If not drawn through correctly constructed apparatus and equipment, it will not give satisfaction. The equipment illustrated and described in detail includes bars, counters, standard unit service bars, novelty boxes, coil boxes, bottle-cooling and workboard units, bottle racks, and complete beer hookups for air and gas pressure. The leading line of this company's bar counters is described as follows: They are built of selected birch, finished in walnut or mahogany, with laminated die panels vertically veneered, and with 6-inch black, wood basing. The top slab has a heavy, rolled edge and is equipped with 2½-inch trough. The top slab is beautifully finished and alcohol resistant. Its length is in multiples of 2 ft. from 10 ft. 2 in., overall top slab. Inside 9 ft. 4 in. Width 2 ft. 9 in. Height 3 ft. 6 in. Width of top slabs 1 ft. 9 in. Every unit is efficient in design, of high grade materials, workmanship and finish.

Have Moved to Larger Quarters

Premier Coil Cleaner Mfg. Co., makers and distributors of beer coil cleaning machines, has moved from 208 South LaSalle Street to larger quarters at 166 West Jackson Blvd., Chicago. In this new location, the company has installed a bar so that a working demonstration can be given in its own office of its beer coil cleaner.

Booklet Describes Beer Bottle Cases

The Defiance Pressed Steel Company of Defiance, Ohio, has issued a neat booklet describing and illustrating its line of sanitary beer bottle cases. This line of cases is made of all-metal and it is rust-proofed.

Circular Features Beer Meters

Worthington-Gamon Meter Company of Harrison, N. J., has issued a circular featuring its line of beer meters, with a capacity of 5 to 125 gallons per minute. This circular also calls attention to this company's lines of air compressors, CO_2 compressors for beer carbonating, pumps for beer and water, and ammonia compressors.

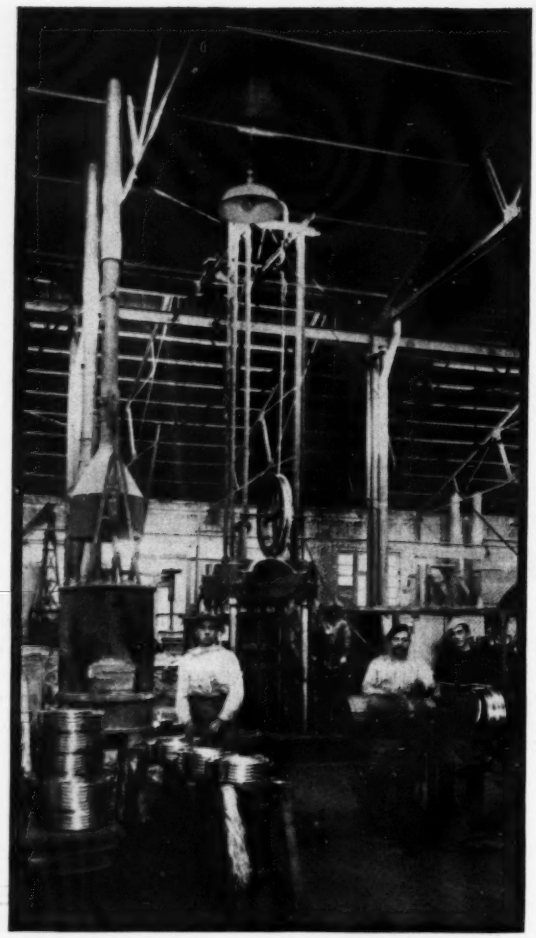


Fig. 1—The above illustration shows equipment used in the manufacture of block tin pipe

What is Block Tin Pipe?

Its Manufacture and its Application to the Cooling of Beer on Coil Boxes

BECAUSE of the use of block tin pipe for beer cooling coils, it is interesting to note how it is made. The following is an outline of the process involved in the production of this tubing.

Each time you squeeze a bit of dental cream through the opening in the tube you are employing in principle the same method used to extrude tin pipe. The modern process of extrusion consists of forcing plastic tin through a die by hydraulic pressure. Tin is introduced into a large vertical cylinder closed at the bottom and containing, centrally located, a small diameter rod which acts as a core and equals in diameter the inside diameter of the pipe extruded. The tin is forced through a die surrounding the core. The width of the angular orifice represents the thickness of the pipe. By changing cores and dies, different sizes of pipes may be produced in the same press.

Tin pipe is frequently produced from a cylindrical slug weighing about 50 lbs. and measuring about 4⅝ in. in diameter with a length of 14 in. From 300 to 400 tons pressure is applied on a water ram measuring from 14 in. to 16 in. in diameter. This means a pressure of around 4,000 lbs. per sq. in. on the hydraulic ram, but since the openings the pipe passes through are variable, the pressure varies correspondingly.

The extrusion of tin pipe is somewhat like the extrusion of lead pipe but it requires greater skill to produce a high quality product. The temperature of the metal

during extrusion must be carefully controlled and the rate of extrusion must also be carefully watched. For beer coils, 3/8-in. inside diameter pipe is a popular size. Other standard sizes vary from 1/4 in. to 2 in. inside diameter with weights varying from 1/4 lb. to 3 lbs. per foot.

Draft Beer Requires Sanitary Equipment

Quality Installations Insure Good Service

TO understand fully the need for the use of quality equipment in making beer dispensing installations, it is well to know a few facts about the beverage itself. Bottled beer is pasteurized. This treatment is necessary since the bottles are often stored for comparatively long periods of time under unfavorable temperature conditions. Pasteurization kills organisms, which would otherwise develop due to further fermentation and bacterial growth after the beer has left the brewery. While these organisms are not injurious to health, they tend to make the beer unpalatable. The pasteurizing process changes slightly the original taste of the beer.

Draught beer is unpasteurized. This is possible since it is usually consumed a comparatively short time after leaving the brewery. It is necessary, however, to keep the beer at a fairly even temperature never exceeding 70 deg. Fahr. Likewise in dispensing it the most sanitary equipment must be used.

A typical draught beer installation is shown in Fig. 1. The kegs are usually placed in a cool cellar, and the beer is piped, under pressure from either an electric pump or carbonic gas tanks, through a coil embedded in crushed ice or ice water, to the taps.

When the cooling coils and piping are of tin, the term "block tin" is used to indicate that the pipe is of pure and solid tin. The widespread use of tin-plated metals has resulted in a misconception of the true nature and properties of tin, especially as to durability. In the metal trades, therefore, the custom has arisen to refer to pure and solid tin articles as block tin.

The ordinary block tin cooling coil is made from a continuous length of 50 ft. of pipe with an inside diameter of 3/8 in. and an outside diameter of .515 in., weighing about 5 oz. per foot. Where considerable quantities of beer are dispensed, more than one coil is employed and a separate faucet is used for each. The beer is drawn from alternate faucets, thus assuring adequate cooling.

Nominal pressures of from 10 to 20 lb. per sq. in. are applied in order to force the beer from the kegs and up through the coils. The 5 oz. 3/8 in. inside diameter tin pipe referred to above, has a bursting strength of 1200 lb. per sq. in. Assuming a safe working pressure to be approximately one-eighth of this amount or 150 lb. per sq. in., the large safety factor can be appreciated.

The amount of pipe needed in the cooling coil varies with each installation. It depends principally on the volume of beer to be drawn through the pipe during a given period as well as the desired temperature of the liquid at the tap. Laboratory experiments recently calculated that 29½ ft. of 5 oz. block tin pipe packed in ice water would be necessary to cool 10 gallons of beer per hour from 70 deg. Fahr. to 40 deg. Fahr. In actual

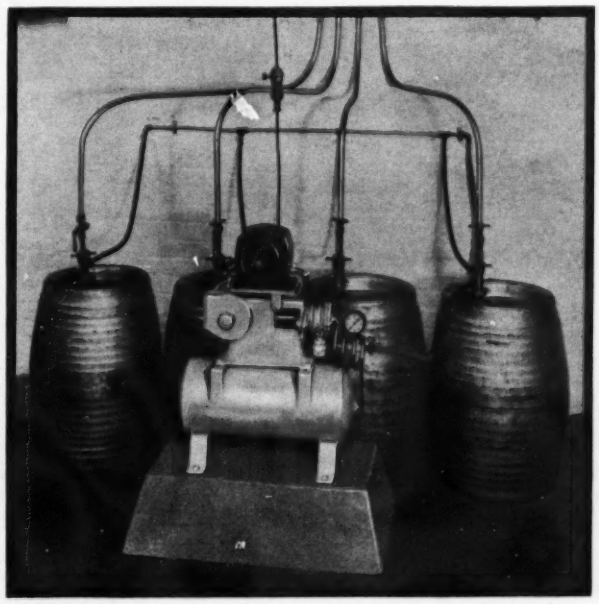


Fig. 1—Here is a typical installation of beer drawing equipment

practice a greater length of pipe is usually employed as the beer is frequently drawn at a faster rate than that indicated and also because the beer tends to leave a residue on the inside of the pipe, retarding cooling.

In order to dispense good draught beer properly, the coils and pipe should be cleaned at least once a week to clear them of all matter left by the beer.

Quality Installations—

(Continued from page 109)

Helpful suggestions:

1. Keep pressure constant, both day and night.
2. Open pet cock on air tank (if tank is used) at least once every two weeks, to drain out dirt and water.
3. Do not tap leaking kegs.
4. To avoid leaks around the head or bung from too high a pressure, shut off the regulator before putting pressure on the keg.
5. Pack coil box full with cracked ice and keep it filled. Do not try to save on ice.

EMPTY COOPERAGE

Empty cooperage (kegs) should be returned just as fast, and in as good condition as possible. They should not stand outside or be allowed to dry out. Store inside. If storage room is not moist, kegs should have water sprayed on them frequently by hose in basement. Watch your kegs carefully and when empty, return them quickly.

HOW TO SERVE BEER

Beer served too cold appears flat. When drawn warm it has a different and not too pleasant taste. If you will keep it cooled from 40 to 45 degrees, you will have more success in pleasing your customers. The secret of knowing how to properly serve beer is simple. The temperature must be "just right" and it should always be served with a good head of foam.

CARE OF BEER GLASSES

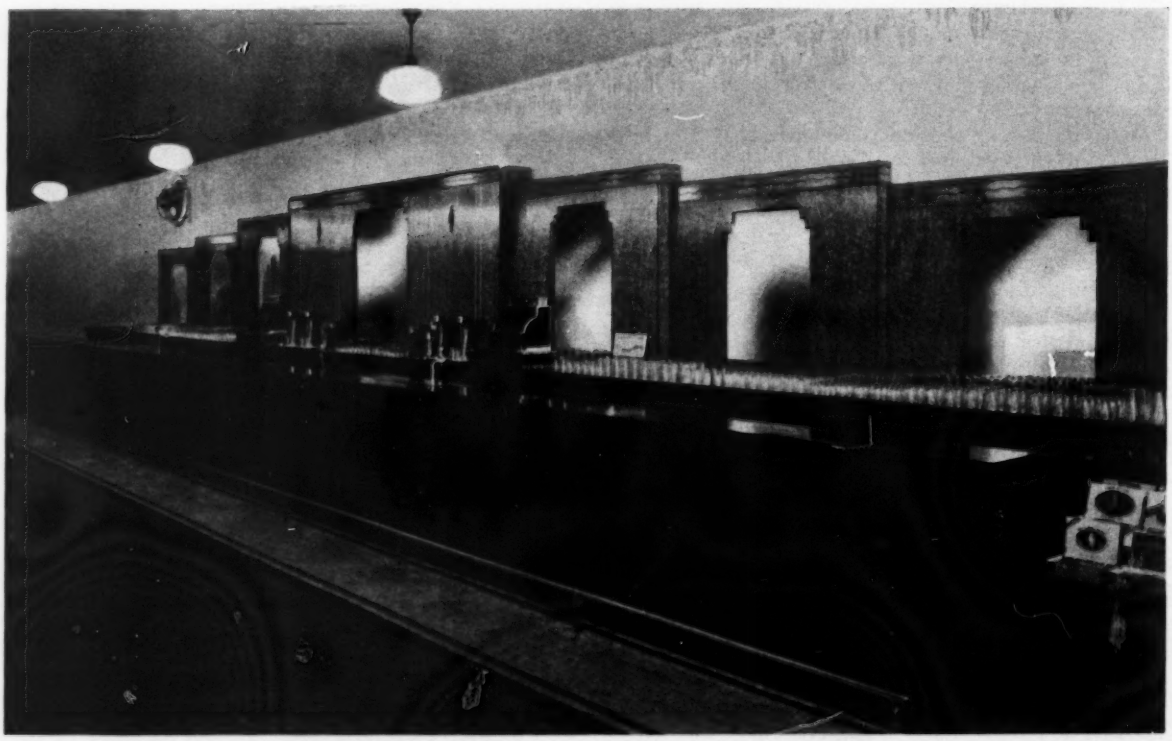
Beer should be served in wet glasses. Glasses or other containers should not be washed with soap. Glasses in which milk, malted milk or ice cream drinks have been served should not be used for beer. Rinse glasses in fresh cold water just before pouring beer into them. This allows the foam to show and stand up much better.

NO. OF GLASSES PER BBL. (31 GALS.)

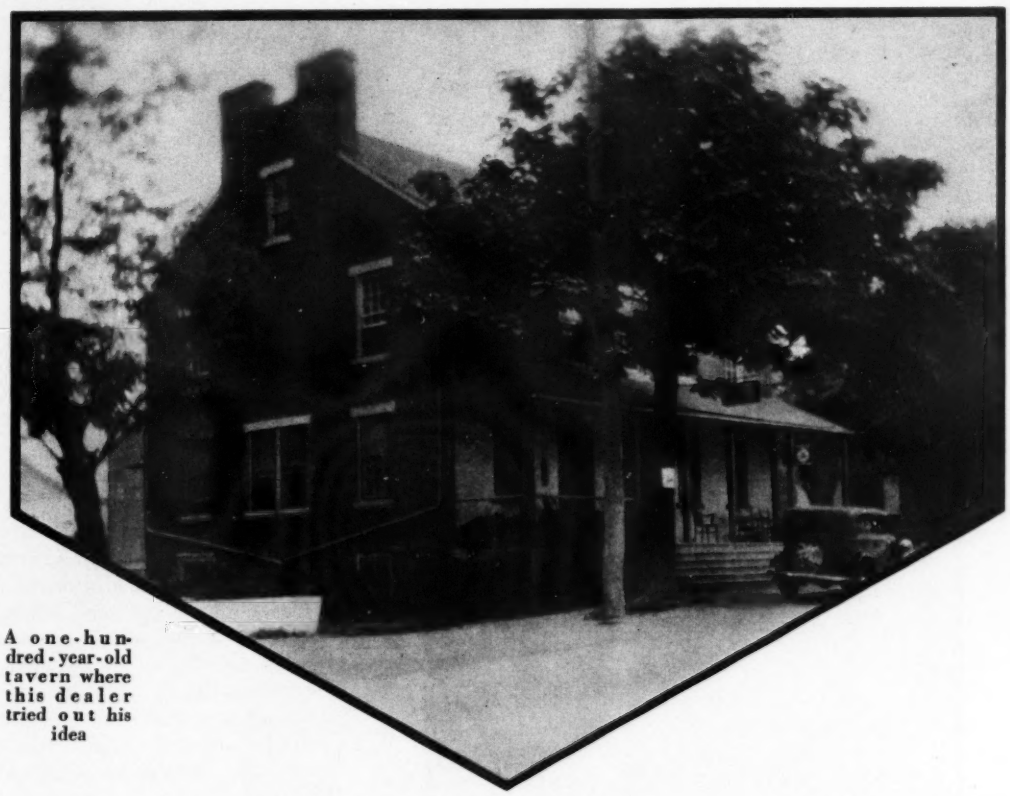
By using the following table it is possible to tell at a glance how many glasses of beer of a certain size may be served from a 31-gallon barrel—and what the income should be at 5c and 10c.

CHART FOR BEER DISPENSERS

Glass Ozs.	No. of Glasses	At 10c	At 5c	Glass Ozs.	No. of Glasses	At 10c	At 5c
16	248	$24.80	$12.40	10	396	$39.60	$19.80
15	264	26.40	13.20	9	440	44.00	22.00
14	283	28.30	14.15	8	496	49.60	24.80
13	305	30.50	15.25	7	566	56.60	28.30
12	330	33.00	16.50	6	661	66.10	33.05
11	360	36.00	18.00	5	793	79.30	39.65



Here is a fifty-foot bar which has been installed at the Bank Club in Reno, Nevada. It is described as illustrating what can be accomplished where larger fixtures are required when expert assistance is used in planning the space.



A one-hundred-year-old tavern where this dealer tried out his idea

He Uses First Contacts as Wedge to Better Sales

HAROLD L. BEST, of Allentown, Pa., has approached the beer and bar equipment market with a little different slant. His approach is based on a close analysis of the conditions under which the market was operating in the early months after the legalization of beer. Appreciating the fact that many of the men who would be opening taverns, or other types of dispensaries—some of them with equipment carried over from previous periods—would want to start with as little expenditure as possible, he has been content to do a good job of helping them get started, with the idea of moving forward step by step to better and more modern equipment.

Mr. Best has been particularly diligent in contacting the old established hotels and taverns throughout his territory, checking up on the dispensing equipment available in these places, and recommending the reconditioning or addition of new equipment as his experience indicated.

"Many of these old hotels," said Mr. Best, "have kept intact the dispensing equipment which they had used fifteen years ago, and in quite a few cases the reconditioning of this equipment was all that they were willing to undertake.

"We have even reconditioned some of the old mechanical services which had been idle all these years, and these are working as satisfactorily now as they did then.

SERVING THE CUSTOMER'S INTERESTS

"While the sale of new dispensing equipment should not be neglected by the alert contractor, he must nevertheless temper his desire for profit with good judgment. Our theory is that where the old equipment can be made to serve satisfactorily, this should be recommended, but at the same time calling the owner's attention to the need of improved facilities to take care of his trade under the changed conditions that have manifested themselves over those that prevailed years ago.

"Fifteen years ago practically all business was done at the bar. Today the average tavern is a combination of restaurant and bar room, calling for facilities with which few of the older hotels are adequately equipped."

To prove how a comparatively small reconditioning job may lead to real important work, Mr. Best explained that the owner of a suburban hotel had asked him to examine an old beer pump with a view of having it reconditioned. The examination disclosed that the pump could be brought back into good operating condition at

a cost of about $25, whereas a new pump would have cost the owner at least $100 more.

"We repaired the pump and made a few necessary changes in the dispensing arrangement," he continued, "and the owner was highly pleased that he had been saved the cost of new dispensing equipment. His bar facilities were sufficient for the business he was doing, but I pointed out to him that his facilities for handling large crowds of people were inadequate; that lack of modern accommodations might cause people to seek other hotels for just that reason.

MODERNIZING JOB ADDED

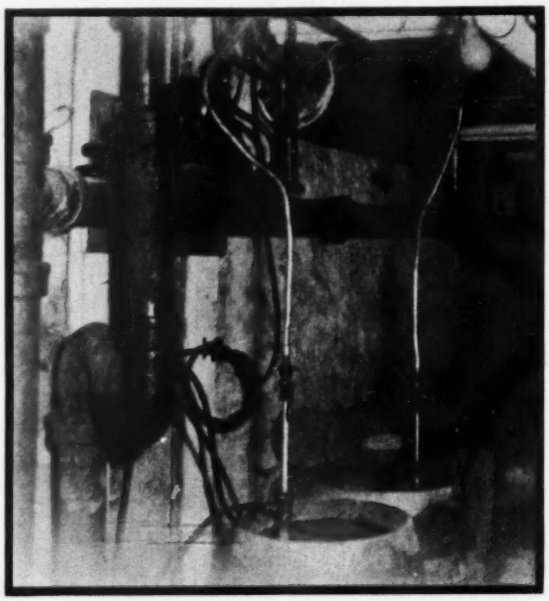
"This hotel was a particularly good prospect for modernization because the building is at least a hundred years old and lacked many of the conveniences found in modern buildings. As a result of our suggestions an additional toilet was installed on the first floor and a bath room on the second floor. One thing led to another, and the owner expressed his belief that he would not be able to heat the building comfortably in cold weather, and we also found that his supply of hot water was insufficient for the kitchen.

"A survey of the problem resulted in a contract for a completely new heating system, together with a new tank and stove for the hot water supply in the kitchen and guest rooms and the bar room."

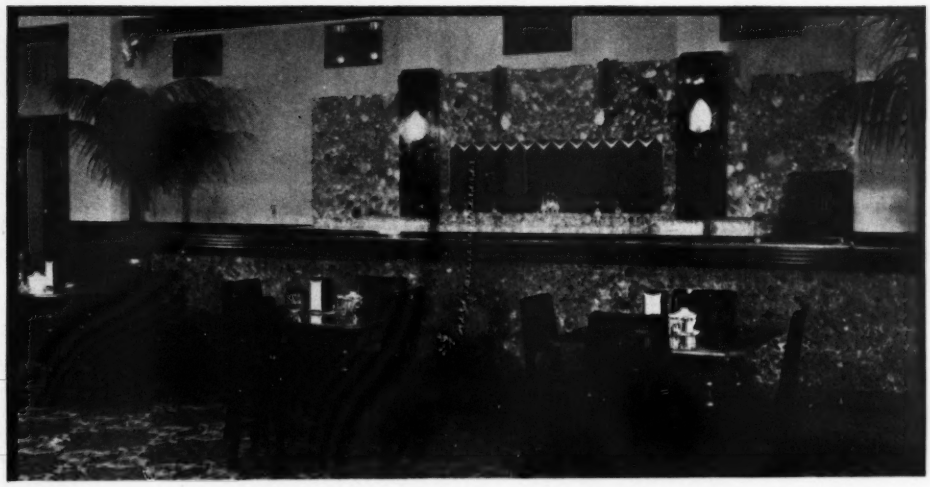
Best believes that the sale of beer equipment by the contractor-dealer is but the means to an end, making it possible to lead the way to work that is more important and profitable. The sale of dispensing units or the reconditioning of old equipment is merely the first step, according to his view, and should be followed by recommendations for improvements of facilities.

He has found that in most instances the owners of public places have focused their attention on dispensing equipment, the theory being that if they can tap the beer they will get the trade. His plan is to point out in a diplomatic way that customers demand every modern comfort and convenience and that neglect of the so-called auxiliary requirements of a hotel or restaurant may easily cause a decline in patronage.

(Continued on page 128)



Above—The beer pump in this job is suspended from the rafters, as shown. Right—A corner of the bar room in the century-old tavern where one job led to others



How Much Beer In a Barrel?

Fig. 1—The top illustration shows an attractive bar installation in the Burdick Hotel at Kalamazoo, Michigan. Fig. 2—Immediately above is shown the working side of a front bar. Both of these installations represent types of jobs on which metering equipment may be used

The wide variations in the capacities of beer barrels become apparent when the method of handling this equipment is understood.

THE purpose of this article is to point out that all beer barrels are not of the same capacity even though they appear to be of the same size. In the rush which has been, and is being experienced to supply tavern owners with draft beer for distribution, old barrels, as well as new types of equipment have been pressed into service. Years ago, when beer sold at approximately four dollars a barrel, economy of handling and serving was not as important as it is today. The question of the exact capacities of various packages for the handling of beer was of little moment. Now, however, it is time well spent by the tavern owner if he investigates both angles of his turnover, namely, the exact quantity received in his package and the exact amount of return which he receives for same.

In order to explain why it is good practice to investigate the amount of beer actually contained in a barrel, it should be understood what happens in the handling of barrels. When new cooperage is received by the brewer the inside of it is burned out with a flame. Then the barrel is sent to the pitching machine where it is coated on the inside with hot pitch. The fumes on the inside of the barrel as a result of the pitching operation are next blown out. Finally, the inside of the barrel is washed out with cold water. This operation takes place each time the barrel is received by the brewer for filling.

Barrels generally are filled under a pressure of 15 lb. per sq. in. and at a temperature of 40 deg. Fahr. This pressure is maintained during storage and delivery to the tavern owner. Also, this pressure is still on the container while the beer is being tapped so as to cause a flow through the piping and out of the faucet at the

bar. Another consideration is that barrels are bounced and rolled around. A common practice when unloading is to drop them off of the truck and onto a rope mat. All of this requires that the barrel be absolutely tight if the beer is to be prevented from leaking out of the container. Accordingly, before a barrel is filled by a brewer it is sent to the hoop driver which forces the hoops on more tightly. Here is the interesting point from the standpoint of capacity. Each time the hoops are forced on, they force the staves together more tightly with a consequent reduction in the capacity of the barrel. Actual measurements show that one barrel may be 2½ gal. short while another barrel may be even as much as 4 gal. short.

This condition is being met by the installation of metering equipment. For instance, one chain of beer dispensing establishments in Chicago, which operated before prohibition as bars, and during prohibition as restaurants, just recently installed metering equipment on their beer faucets. They have found numerous shortages of 2½ gallons per barrel in drawing the beer and they have checked this by filling the short barrels with a measured quantity of water. Another instance is in the case of one of the large Chicago hotels which now is metering the beer drawn in its tap rooms.

What Readers Ask

Here is a department devoted to a discussion of questions which are selected as of outstanding interest to beer dispensing equipment dealers

Wants Information on Refrigeration

To the Editor:

In our beer business we have been called on to install cooling units in cooling boxes, and to connect them to a refrigerant compressor that is serving the box that keeps meats cool, etc. In other words where a compressor already is installed and serves other fixtures in the premises.

We understand this is possible provided the compressor is big enough to carry the additional load.

Can you send us the necessary engineering data to arrive at the correct computation of this problem, or similar ones which may arise?

Springfield, Mass. B. J. A.

Connect to Existing Plant

To the Reader:

Coolers may be readily used to replace ice coils in an existing beer dispensing fixture and connected to the existing condensing unit, provided that condensing unit has sufficient surplus capacity to handle the load.

There is no definite method of long distance engineering on this type of installation. It would be possible, however, to get close to a decision, first ascertaining the capacity of the condensing unit in Btu. and then the beer cooling load in Btu. Then check the running time of the condensing unit to determine the number of idle hours which would be a certain portion of the total Btu. capacity of that condensing unit which if sufficient to handle the beer cooling load and not operate the compressor more than 18 to 20 hours in 24 during maximum conditions and hottest weather, the installation could be made safely.

What States Prohibit Beer?

To the Editor:

Advise by mail full information states not selling beer.

Worcester, Mass. C. E. F.

To the Reader:

Replying to your telegram of today, the following states are not now permitting the sale of beer: Kansas, Mississippi, Alabama, Georgia.

Utah does not at present permit the sale of beer, although it has legalized the manufacture of beer, but after January 1st Utah will also permit its sale.

Brewers Protest Equipment Sales

Representatives of Chicago brewers took an active part in hearings before the Illinois general assembly called to discuss liquor legislation. These spokesmen for the brewers were asking for legal aid in preventing other brewers from trying to tie up beer outlets by the gift or sale of equipment, or through other means.

Irving J. Solomon, president of the Chicago District Brewers Association, said that

"When our salesmen seek business from a tavern in Chicago, they are asked for $1,000 or $1,500 for signs, fixtures, etc. When our salesmen tell them that they cannot give them such amounts, because it is against the law, the tavern man says he will get his beer where he can get money to help him start in business."

As a result of this and similar statements, the legislators discussed means of effectually preventing any brewers offering equipment and inducements to beer store owners.

The brewers' code drafted by the government prohibits under Article VIII:

Section 12. *Equipment and Fixtures.* To furnish, give, rent, lend or sell any equipment, fixtures, or supplies, directly or indirectly, to any trade buyer. Nothing herein shall be construed to prohibit the sale to any trade buyer by members of the industry of such equipment. fixtures or supplies now owned by them and now installed in retail premises.

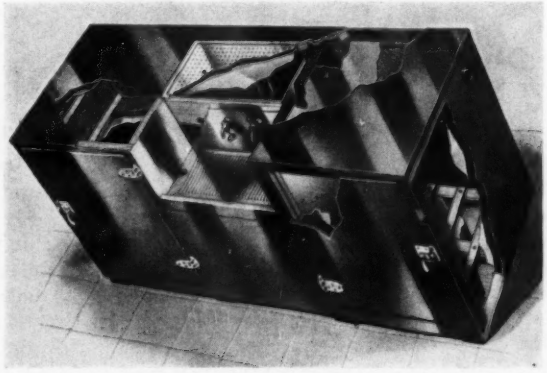
Section 13. *Signs.* To furnish, give, rent, lend or sell any interior decoration, or to furnish, give rent, lend or sell any sign which costs more than $2.00.

Products
for the
Beer and Bar Equipment Dealer

Readers will find in this section information and news regarding products for use in making their beer dispensing sales and installations

A Stainless Steel Beer Service Bar

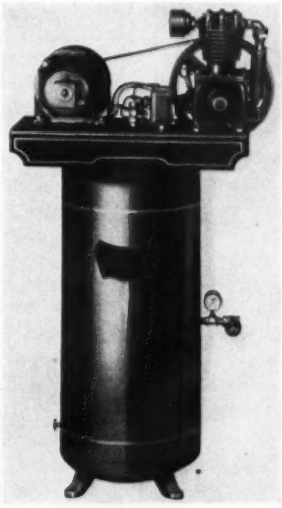
The accompanying illustration shows a beer service which is finished in stainless steel. The cut-away portions show the interior construction. For instance, the top of the bar is made of heavy highly polished stainless steel facing. Underneath this there is a metal reinforcement and below this there is cypress wood reinforcing. The space between the wooden supports is filled with cork insulation. The inside surface is finished with a rust resisting metal lining. Skids underneath the bar are made of chestnut. As for the coil compartment, this is lined with tinned copper and is insulated with cork. The drainer on the top of this compartment is described as being of exceptionally heavy stainless steel. The faucets are supported by a cypress reinforcing board.



The barrel skids in the barrel compartment are made of ¼ in. galvanized band iron and these are mounted on birch supports. The doors are equipped with a packing for sealing the joints. The Liquid Carbonic Corporation, located at 3100 South Kedzie Ave., Chicago, Ill. is the manufacturer.

Vertical and Horizontal Beer Pump

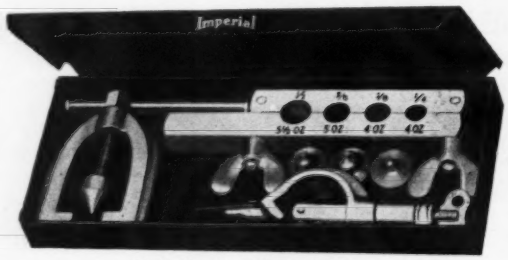
The accompanying illustration represents a new line of horizontal and vertical model twin-cylinder air compressors. They are described as being new throughout in design and in construction. The vertical compressor is shown and has been made especially adaptable to installations where the space is limited. A standard-make motor has been used. The after cooler is finned. Other features are a special check valve; a V-belt drive; an automatic unloader control; a special safety valve; an air filter and an intake muffler; a heavy duty steel tank; a fan type fly wheel which is taper mounted; hardened and ground shafts, and bearing surfaces which have been designed to be extra large. The design includes twin cylinders for developing a smoothness and silence of operation. The maker of this equipment is Brunner Manufacturing Co. located at Utica, New York.



A Two Purpose Novelty Box

The two accompanying illustrations of a double-purpose novelty box, which has been placed on the market, show respectively the front and rear sides. The box will hold either barrels, half barrels, or kegs. The compartments are piped for air with air valves. It is fur-

New Conditions Demand More Speed for every
BEER INSTALLATION



BLOCK TIN TUBE CUTTING AND FLARING KIT

THE recent voting on repeal has made vital changes in the beer selling industry. Speed in installations was never more important. Imperial beer dispensing equipment includes all parts, appliances and special tools needed for quick, thorough and permanently satisfactory work.

CARBONIC GAS AND PIPE LINE PRESSURE REGULATORS

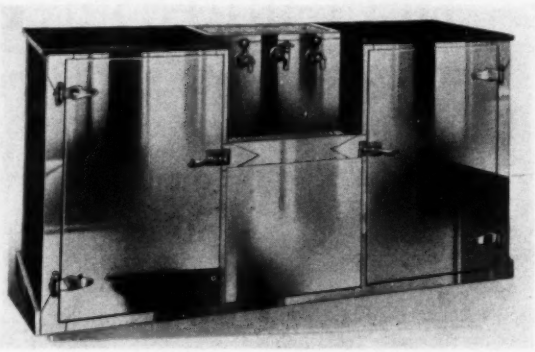
DRAUGHT TUBES

DISTRIBUTING PIPE

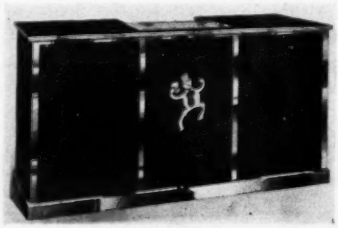
Write for the Imperial beer equipment catalog No. 440

IMPERIAL BRASS MFG. CO.
1231 West Harrison St. CHICAGO

nished complete with two taps and tapping rods for either kegs, half barrels or barrels of beer. Beer hose and gauge are included. This bar is provided in special lengths on order and it can be furnished for electric refrigeration if desired. Light red and light green formica panels, with either the same color or black satin finished



formica tops and aluminum inlays can be supplied. Variations in the metal inlays are available. On the working side of this bar, the coil box is of polished stainless steel with a stainless steel drainboard and drip pan. Two chrome plated beer faucets of either the quick action or the ground joint type are furnished. The one water faucet

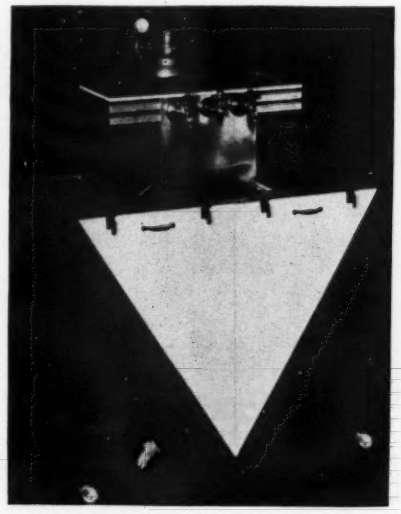


is of the self-closing type and is chrome plated. Each of the two beer coils are 57 ft. in length and consist of 8-oz. block tin tubing with ½-in. inside diameter. The water coil is 30 ft. in length and is the same size as the beer coil. The insulation in the coil box consists of 2 in. of cork. As for the storage compartment, this is insulated with 3 in. of cork. The doors are of polished stainless steel and the hardware is chrome plated. The length of the compartment is 24 in.; height 29 in.; and depth 26 in. The over-all length of this novelty box is 82 in.; the width of the counter is 19 in. in the center and 29 in. at the ends and the height is 43½ in. The Kingery Manufacturing Company, located at 420 East Pearl St., Cincinnati, Ohio, is the maker.

A Double-Barrel Serving Unit

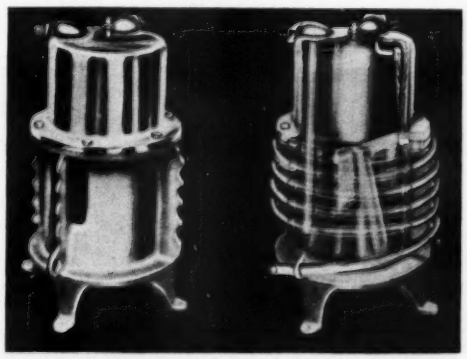
Here is a double-barrel unit which has been placed on the market as a portable item. It is all-metal and has been designed so that it will not sweat in hot and humid weather. This unit has been placed on casters so that it will be possible to move it and clean out the space behind and underneath it. Because of this portable fea-

ture, the well drain is located in the lower ice drawer which is designed to be removed easily for draining purposes. Standard Metal Products Company, of 100 W. Louisiana Ave., Denver, Colo., is the manufacturer.



A Tank System for Dispensing Beer

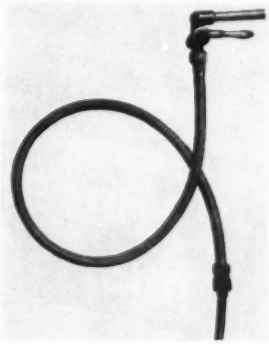
This tank system for dispensing beer may be used in conjunction with either ice or electric refrigeration. It is made of an alloy which has been selected because of its ability to conduct heat rapidly. The capacity of this equipment is listed as being equivalent to 200 ft. of block



tin coil. The size of the tank is 12 in. long and 9½ in. wide. It has a reservoir of about 5 quarts and is designed so as to be used in the smallest size cooler. A special automatic valve is included to prevent the serving of riled or wild beer. This valve is described as being fool-proof and as self-sustaining. It is made to allow the beer to flow at the same pressure at all times regardless of the condition of the beer in the barrel. Also, this equipment is made so as to be cleaned easily. A baffle plate bottom is included to enable the beer to cool rapidly. All of the connections are described as being properly tinned and insulated. Kool-A-Rator Company, located at 22 William Street, Newark, N. J. is the manufacturer.

A Flexible Hose and Tubing

Here is an all-metal flexible hose which has been placed on the market for the purpose of connecting block tin pipe to beer draft tubes. It has been designed to be permanent in nature. This pipe is described as being made of a specially constructed metal, the inner layer of which is tinned prior to rolling. Another feature of this is that it is equipped with special couplings. The standard size is 30 in. although it can be had in any length required. American Cooler Company, of 37 W. 19th St. New York City, is the manufacturer.



A Draft Beer Dispensing Cabinet

The accompanying is an exterior view of the working side of a draft beer dispensing cabinet for use in connection with electric refrigeration. The line of draft and bottled beer cabinets represented by this equipment is built with a remote type unit only. Also, units are equipped with a variety of fittings as desired. The frames of this cabinet are made of hardwood to which is secured, on the sides and ends, ⅜-in. waterproof insulating board which forms a rigid moisture-proof casing for the cabinet as well as a solid back for the corkboard insulation. The cabinet is insulated with 3 in. of corkboard on the floor, 2½ in. on the side and end walls and 2 in. on the top. This cork board is thoroughly waterproofed to guard against moisture absorption. The interior is lined with sheet iron designed to be rust resisting and the floor is protected by removable hardwood floor racks. A drain is provided in the floor for connecting with sanitary fittings. The exterior sides and ends are covered with auto body steel finished in a pale green duco color. The top is covered with monel metal in the center of which is a grill, upon which to place the filled glasses for draining. The drip pan is of copper. The faucet and door hardware is of brass. The refrigerating coils are of ½-in. copper tubing and are run in two banks which are separated from each other on 1-in. centers. The outer bank rests firmly against the inside wall of a tank which is suspended from the top of the cabinet and which is filled to overflowing with water. The inlet for filling this tank with water is located under

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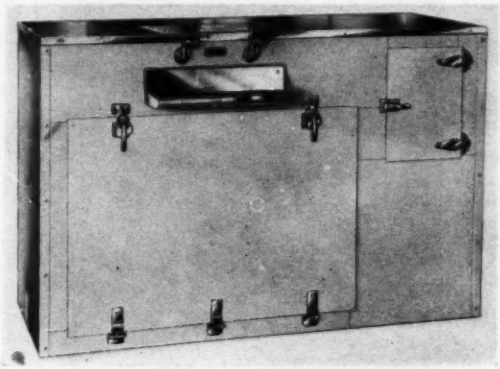
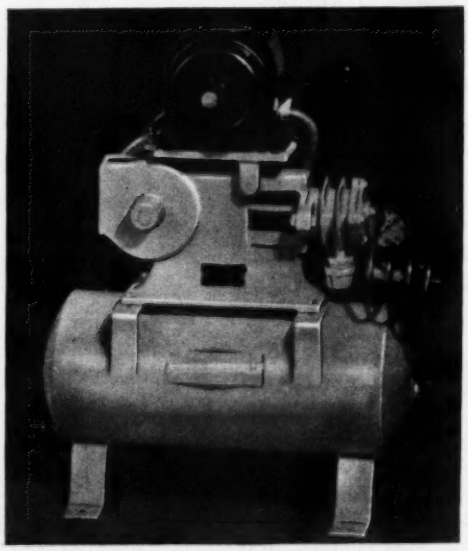
the top grill. This bank of refrigerating coils provides refrigeration for the water bath and through the tank wall refrigerates compartment by contact with the tank wall. The inner coil which is a continuation of the outer coil adds to the refrigeration area. Set inside the copper



refrigerating coil and spaced 3 in. all around from the copper coil, is set 42 ft. of ⅜-in. block tin coil for cooling the beer. The control is adjusted to cut out when the water bath reaches a temperature of 35 deg. Fahr. above zero. This unit is 66¼ in. in length, 26½ in. in width, and 45¼ in. in height. Anheuser-Busch, Inc., Refrigeration Division, St. Louis, Mo. is the manufacturer.

Special Features for Air Compressor

Here is an air compressor which has been placed on the market with several special features. It is designed so as not to allow oil or oil fumes to reach the beer.

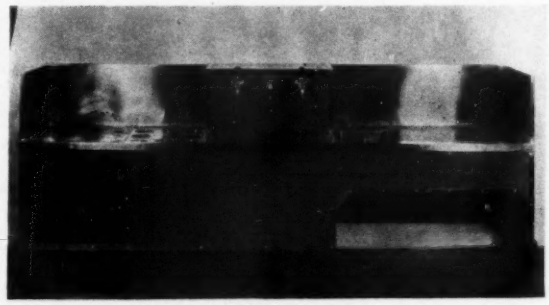


Also, the air compressor cylinder is separated from the crank case housing. In addition to being made so as not to require lubrication, it has special heat resisting

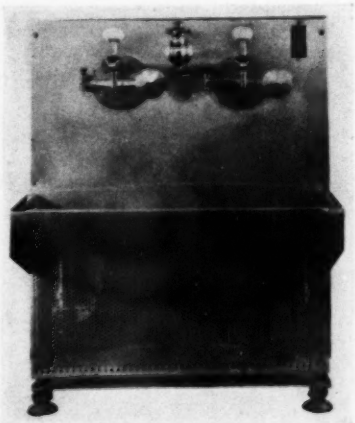
and leak-proof cup leathers. It is shipped completely assembled in two sizes, namely, one having a capacity of 10 taps and one having a capacity of 20 taps. Fairbanks Engineering Company, of Worcester, Mass. is the manufacturer.

A New Bar Interior

The splash board behind the faucets of the bar shown in the accompanying illustration is manufactured with a bakelite material having a walnut finish. The apron below the work board also is made with this same finish which is described as not being subject to harm by spilling on it alcohol, bar polish or other liquids. This bar also is furnished with the above described splash board



and apron in either monel metal or stainless steel. It will be noted that the bar contains a bottle chest, a cooling rack and a dispenser which includes a water cooling coil. The balance of the bar is made up of the rinse tank and drain board. Specialty Cabinet Company, of 1095 Beaufait Avenue, Detroit, Mich., is the manufacturer.

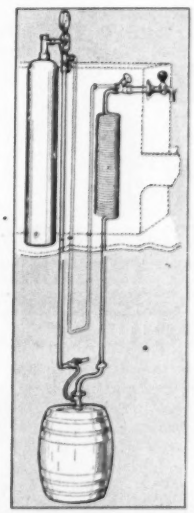


An Electric Beer Cooler

This beer cooler is equipped with electric refrigeration coils. The cooling cylinder is designed to be taken apart easily for daily cleaning. This cooling mechanism consists of two main parts, namely, the housing, around the outside of which refrigerant travels, and the inside hollow cylinder. By unscrewing a large nut at the front of the cooling mechanism, the front cover and faucet and the inside hollow cylinder can be removed and washed in a pan of water. With these parts removed, the inside of the housing is accessible for thorough washing and rinsing. As the beer passes through the cooling mechanism it is made to travel in a spiral course between the hollow inside cylinder and the outer housing. The heat in the beer is transferred to or absorbed directly by the refrigerant surrounding the outer housing. The necessary refrigeration is listed as being supplied by a ¼ h.p. compressor, mounted in the base of the machine. A cold control switch on the front panel permits the user to set the machine to cool the beer to any temperature desired. The machine is made to automatically maintain the set temperature of the beer regardless of the volume that is drawn, up to its capacity of 15 gallons per hour. Specialty Brass Company, located at Kenosha, Wisconsin, is the manufacturer.

A Beer Equalizing System

The equipment illustrated here has been placed on the market for the purpose of eliminating the necessity of drawing off a quantity of beer each morning in order to clear the pipes so that the first glass served will come directly from the keg itself. Obviously, the practice of drawing off beer in this manner involves a waste and this equipment is designed to prevent this. It is estimated that approximately an ounce of beer is lost for each foot



of pipe and coil. From the accompanying illustration it will be seen that there is a thumb screw in the fitting just behind the faucets. A turn of this thumb screw opens a needle valve equalizer which permits the pressure on the beer in the barrel and the pressure at the faucet to be equalized. When this condition exists, gravity drains the beer back into the barrel. This prevents the beer from remaining in the pipe overnight. This equalizing system consists of the equalizer valve; a special tee and

Designed for

BEER ALONE

DeVilbiss Beer Pumps are designed expressly for the pumping of beer. Their highly efficient oiling system, three ring piston and the slow speed of their operation eliminates any possibility of oil leaks. They are noiseless and vibrationless—fully automatic in operation—economical to run. Write for illustrated folder. The DeVilbiss Company, 303 Phillips Avenue, Toledo, Ohio.

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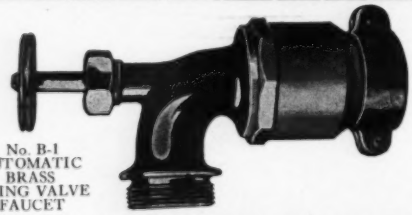

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Beer Pipe Cleaner Couplings
Beer Pipe Cleaners

In the 81 years that we have spent in manufacturing beer dispensing equipment we have learned what to do and what not to do in order to offer a line that would serve users best.

From the materials used, to the finished products, superlative quality is the order. Modern manufacturing methods assure the user equipment that will be free from call-backs due to faulty castings—assure a finish that not only looks mighty well, but wears well—and eliminates trouble due to faulty operating mechanism. The kind you "read about" applies to anything made by FARNAN and assures you that you can't go wrong specifying the FARNAN line for your beer dispensing equipment needs.

THE FARNAN BRASS WORKS CO.
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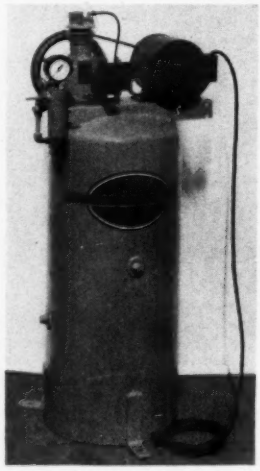
its fitting, and sufficient copper tubing for connecting the valve to the pressure supply. This equipment is manufactured by the Presto Products Company, 907 Empire Bldg., Milwaukee, Wisc.

Air Compressor for Draft Beer

The accompanying illustration shows a unit which represents a line of beer pumps in which has just recently been incorporated a number of new sizes and styles. This line is made in ⅙ h. p. and ¼ h. p. units, with 2½-gal. horizontal tanks. In addition, the line in-

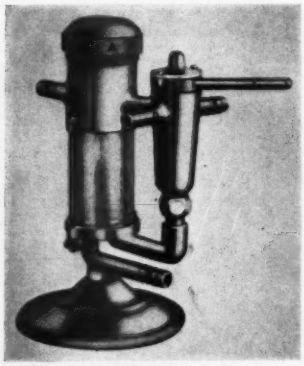


cludes both ⅙ h. p. and ¼ h. p. units with 20-gal. vertical tanks. This latter equipment is designed to provide more storage capacity and to make it unnecessary for the pumping unit to cut in and out as frequently as in the case of the small tank units. The vertical tank equipment is for installations where there are more than four taps. The horizontal tank units are especially designed for installation in the bar itself. This pumping equipment is of the wick oiling type. It has a suction strainer and muffler for the purpose of insuring cool and clean air. It will be seen from the accompanying illustration that feet are provided on the tank so that the entire unit may be bolted to the floor. Curtis Pneumatic Mchy. Co., located at St. Louis, Mo., is the manufacturer.

A Beer Pipe Cleaning Machine

Here is a beer pipe cleaning machine which has been designed to rotate the solution in the coils in both directions with the idea of not only cleaning but scouring in this action. In the accompanying illustration, the operating lever is marked "C." In neutral position the bar owner can leave pure water in his coils and faucets over night and in the morning run fresh water to and fro in the coil. The standard equipment on this machine consists of 5 ft. of hose and fittings for water connections and 3 ft. of hose for the sewer connection. In using

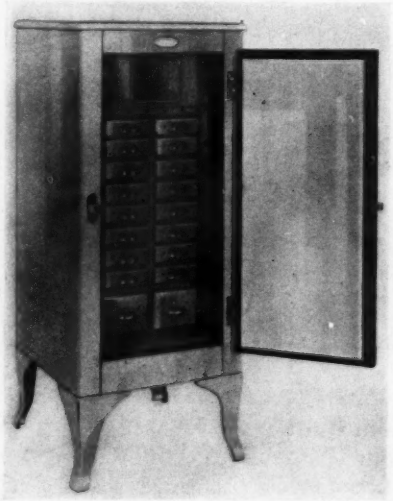
this equipment, the coils are disconnected from the beer rod and are connected together. The connections marked "D" and "E" in the accompanying illustration are connected to the beer faucets which are left open. "F" is connected to the draft tube or tapping rod and is placed



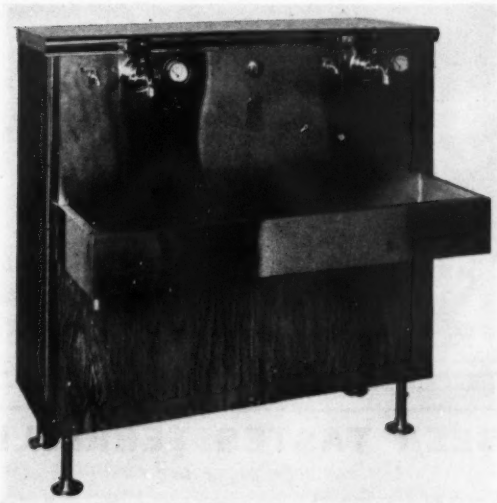
near a drain. The outlet "B" is connected to the hot or cold water supply. By turning lever "C" from left to right it rotates the water both ways and the clearness of the system can be shown by the clear glass. The cleaning compound is inserted in this unit through the cap marked "A." Peerless Beer Pipe Cleaning Co., located at 313 W. Chestnut Street, Chicago, Ill., is the manufacturer.

An Ice Cube Maker

Here is equipment which is rated as being capable of freezing up to 2304 ice cubes per 24 hours. The unit is designed and built as a complete refrigerator where each tray is housed in an individual sleeve. An air cir-

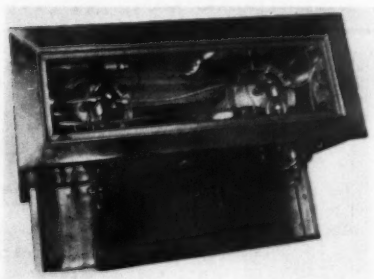


culating space between the tray fronts and the shield prevents the fronts from freezing to the shield. Vent holes provide circulation with the idea of eliminating dead air pockets between the door and the shield. The tray sleeves have ample height to prevent pyramided cubes from freezing to the top of the tray sleeve. It will be noted from the accompanying illustration that two large capacity storage trays are provided. The unit occupies a floor space about 2 ft. square and is rated as being capable of making 55 lb. of ice cubes per freezing. The unit is for use in connection with the flooded or dry expansion systems and can be hooked into any existing refrigeration line or can be installed with a compressor high side. It is equipped with an automatic expansion valve for a single installation or a thermostatic valve in multiple hook-ups. Fedders Manufacturing Co., located at 57 Tonawanda Street, Buffalo, N. Y., is the manufacturer.



Cooler With Novel Features

The cooler shown in connection with this description has been placed on the market to embody several novel features. Although this unit has been designed for electric refrigeration, it may be used with ice. It is equipped with a pressure reducing inlet valve which may be set at



a pre-determined serving pressure and maintained at that pressure as long as desired. The temperature is controlled by the back pressure on the compressor. While one of the accompanying illustrations show a general view of the cooler in operating condition, the second

CURTIS
Beer Equipment

Outstanding
QUALITY
Makes It Easy to Sell

CURTIS Beer Pumps

Compact (vertical or horizontal tanks). Precision made. Reflect our 40 years experience in building air compressors. Air strainer on intake, quiet, rubber mounted, V-belt drive, wick-oiling. Uses Po-Ri-Co for lubrication, won't contaminate beer, cost of pumping much lower than with gas. Adaptable to stationary or portable bars—1/6 or 1/4 H. P. sizes. Attractively priced. Details on request.

Refrigerating Units

Design and precision tooling combine to make these units extraordinary from the standpoint of efficiency; and amply able to withstand the exacting requirements of long continued intermittent service. Buyers who seek good equipment will be interested in these units. Details on request.

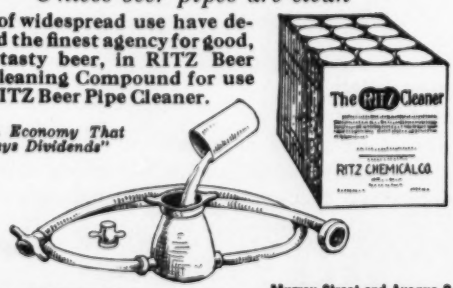
NRA
WE DO OUR PART

CURTIS
PNEUMATIC MACHINERY CO.
1934 Kienlen Avenue, Saint Louis
5518-Y Hudson Terminal, New York City

BEER TASTES TERRIBLE
Unless beer pipes are clean

Years of widespread use have developed the finest agency for good, clear, tasty beer, in RITZ Beer Pipe Cleaning Compound for use with RITZ Beer Pipe Cleaner.

"An Economy That Pays Dividends"



RITZ CHEMICAL CO., Murray Street and Avenue C Newark, N. J.

WACO

AUTOMATIC ◆ COMPACT

Most Popular Beer Pump in America

Write for details and territory offerings

WATER APPLIANCE CO.
605 N. SECOND ST., MILWAUKEE, WIS.

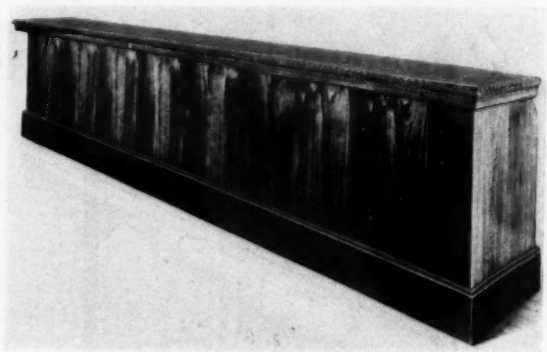
ECONOMICAL ◆ OIL FREE

photograph shows the interior features with the cover removed. Liberty Refrigeration Corporation, located at 237 Georgia Ave., Providence, Rhode Island, is the manufacturer.

Meter for Measuring Beer

There has just recently been placed on the market a meter for measuring beer in connection with either glass or bulk beer trade. As indicated by the accompanying

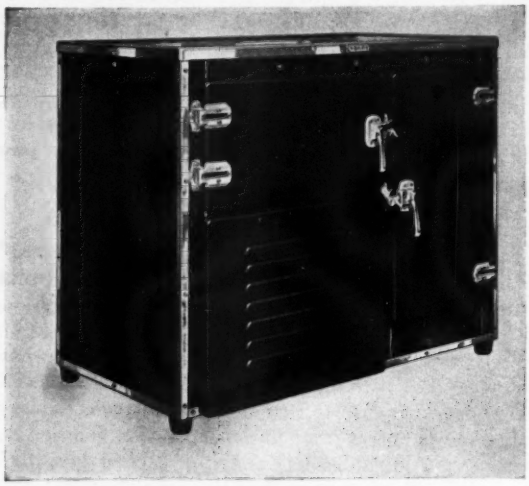
illustration, this consists essentially of a beer faucet to which is attached a metering device. All parts of this faucet are described as machined and finished with the idea of producing an even and smooth flow of beer which eliminates excessive foam and drippage. This meter is designed so as to enable the dealer to check, at any time desired, the number of gallons of beer remaining in the barrel on tap. The manufacturer is the Liquid Meter & Register Company, 844 W. Jackson Blvd., Chicago, Ill.



A Custom Built Front Bar

The accompanying photograph shows a custom built front bar which represents a line of bar equipment. This line includes back bars, novelty boxes, work boards, coil boxes, portable coil boxes, picnic pumps and club bars. Variations are available in this equipment. For instance, the custom built back bar consists of a superstructure

of 5-ply walnut veneer with built-up American walnut columns. It is built to order in any length. On the other hand, a bar listed for clubs, taverns, and similar places, has a top on the counter, of solid Honduras mahogany with a rolled rim. The manufacturer of this line of equipment is Julius Korn Company, 917 W. 19th St., Chicago, Ill.

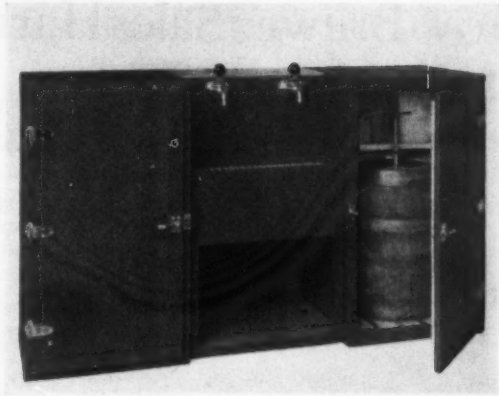


Cabinet for Beer and Food Stuffs

The cabinet shown here is designed for the storage of both beer and food stuffs. It has forced draft air circulation which is designed to assure uniform cooling and proper humidity. Its net storage space of 5.46 cu. ft. is rated as capable of accommodating 3 cases of beer and at the same time leaving ample room for sandwich materials, or the full space may be utilized to store 98 bottles. The exterior height with 1⅝ in. glide is 34⅝ in. The width of the cabinet over the top is 42⅛ in. while the depth of the cabinet over the hardware and top is 25⅝ in. The interior finish is white porcelain enamel, while the exterior is finished with black porcelain enamel. The corner trim consists of stainless steel. Also, the top is of stainless steel. Norge Corporation, Division of Borg-Warner Corporation, located at 694 E. Woodbridge St., Detroit, Mich., is the manufacturer.

Adjustable Novelty Box

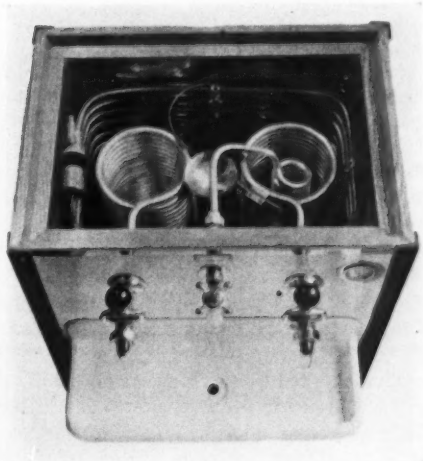
The novelty box shown in the accompanying illustration is made up of a center unit, one keg cooler for the right side and one cooler for the left side. When shipped as a novelty box, these units are so drilled that all connections can be made easily. The center unit is an all-metal beer drawing unit and is made to fit under the standard type of bar. It is also adapted for use in cafes, restaurants, or smaller establishments where there is little available space. The keg coolers also are made of steel. They are insulated throughout with 1½ in. of



corkboard. The ice pan will hold 50 lb. of ice. They come fitted with 3 hinges, a lock and a strike plate, all parts being nickel plated. The floor has steel skids. The height is 40 in; the depth is 24 in., and the width is 23 in. This novelty box combination is finished in a shade of brown crackle enamel. Steelcraft, Inc., of Michigan City, Ind., is the manufacturer.

Temperature and Pressure Gauge on Cooler

The cooling unit which is shown here has been changed just recently to include a temperature and pressure gauge for the purpose of designating the exact pressure and



temperature of the beer at all times. General features of this cooler are that the front drain board is of porcelain; the top is of nickeled silver; the exterior finish including that on the legs is of porcelain; and the interior consists of 16-oz. copper lining. This unit is insulated with 2 in. of corkboard. Frantz Refrigeration Co. located at 404 North Front St., Reading, Pa., is the manufacturer.

How Brewer Sales Harm Equipment Industry

The following letter analyzes the effect of the attempts of some brewers to handle dispensing equipment. The codes of both the brewers and the beverage dispensing equipment manufacturers carry clauses prohibiting such sales. Many brewers are working for laws preventing such sales, as they fear the return of those conditions which arose when brewery-owned saloons were common.—EDITOR.

TO THE EDITOR:

You have asked for my views on the subject of whether or not brewers should handle dispensing equipment. This is a controversial question which of necessity will be settled within the brewing industry. From the standpoint of the equipment manufacturers, however, I hope that the clause prohibiting the handling of equipment will be retained in the code proposed for that industry.

In our estimation, any other policy would be detrimental to the manufacturers of equipment, to retailers and to the brewers themselves.

Equipment manufacturers are entitled to a free market for their product and, denied this, can not prosper. A market dominated by brewers would result in the demoralization of prices, as a limited number of buyers would create uncontrollable competition among equipment manufacturers. The largest and financially strongest equipment manufacturers might profit temporarily, but in the long run would suffer to the same extent as would the smaller manufacturers.

POLICY AFFECTS FUTURE

If and when bars are legalized in the various states, there will be a tremendous demand for equipment and, regardless of any action taken by the brewers, all manufacturers offering acceptable equipment, will enjoy a fine business. Later when the initial demand is satisfied, the market will adjust itself and manufacturers will find it necessary to force sales and display unusual ability to get volume. This is what took place when beer was legalized and there is a comparable situation as regards the return of hard liquors and the opening of tap rooms, taverns, etc.

Any policy adopted by the brewers now will affect the equipment business for years to come and it is the future with which we should concern ourselves.

One may say that the interests of the equipment manufacturers should not be advanced as an argument against the handling of equipment by brewers. I will grant that this argument alone would not carry much weight, but the interests of both retailers and brewers are affected also.

It is safe to assume that brewers are not desirous of handling dispensing equipment because of the profits which might be made in this department. On the contrary, it is probable that there will be net losses because of insufficient original gross profits, bad credit risks, repossessions, etc. These losses would probably be absorbed in general sales and advertising expense but they would nevertheless affect profits.

If my assumption is correct, those brewers in favor of handling equipment propose to use it as a sales aid for beer. Theoretically this could be done, but to advantage for only so long a time as all brewers were not doing likewise. When the point is reached where the offering of equipment at low prices or on unusually favorable terms is no longer a novelty to a retailer there remains no advantage for any brewer. The net result is the saddling of an unnecessary expense on the industry.

From the retailers' standpoint, the apparent advantage of being able to obtain equipment at lower prices or on more favorable terms may prove a boomerang, particularly to those financially able to pay a reasonable price and buy on established terms.

HURTS RESPONSIBLE MERCHANT

There is and will continue to be an abundance of competition in the serving of beer and liquors. Anything that makes it easier for the poorly financed man to get into the business reacts against the responsible merchant through loss of patronage and profits.

A comparable case is that of the ice cream industry where manufacturers prior to the depression financed the purchase of fountains and ice cream cabinets for their customers, with the result that the retail business as a whole suffered. The ice cream manufacturers experienced increased delivery expense and suffered unusual credit losses.

I repeat that I can not conceive of any reason for a brewer wishing to burden himself with the distribution of dispensing equipment other than the temporary competitive advantage which might be his.

The industry is starting new and we sincerely hope that it will be kept on a basis which permits of fair competition between brewers, retailers and equipment manufacturers.

A MANUFACTURER.

Better Sales—

(Continued from page 116)

WATCHES CREDIT CLOSELY

"A careful survey of the present market for beer dispensing equipment brought us to the conclusion that credits must be watched carefully if the business is to return a profit," said Mr. Best.

"We have sold some large units in this city, and we could have sold a considerable number more if we would have installed the equipment on a time-payment basis.

"In looking over this field, I have noticed a large number of small stores who cannot sell enough beer to make the business profitable for them. It may take these small fellows a week or ten days to tap a keg of beer. Obviously, when a keg has been on tap for that length of time the beer deteriorates in quality. The

result is that beer customers eventually go only to those places where they can get fresh beer.

"This does not mean that the market for beer dispensing equipment is decreasing. On the contrary, as the small fellows pass out of the picture, the larger dispensers will increase their business and will need more and better equipment. And they will be able to purchase on a cash basis."

Brewers' Code—

(Continued from page 107)

carried over until today. Today some have placed equipment in like the ice-cream manufacturer, and we feel there has been no evil and no abuse developed to any great extent.

WILL WORK WITH CODE

"However, it was my opinion and that of the industry that we are entirely in accord with the new code to have strenuous restrictions in the provisions of this code and to those who have code administration in hand we will give every cooperation to void in any way any of these evils that creep into the industry, and it is for that purpose we have requested this to meet the needs of the industry. However, we believe that this section of the code is also correct in not disturbing existing conditions where the brewers have already installed equipment or fixtures for trade buyers because should they have to be removed, it would, undoubtedly, cause a great hardship and the loss of many dollars in equipment and fixtures which would have to be junked by the brewers. 'Tied houses' was one of the worst abuses of pre-prohibition days and the brewers propose that such an evil should never return."

Mr. Huber objected, on behalf of his association, to one section of the proposed government's code which would prohibit the brewer from owning any bonds in a building if there was a beer dispensary on the premises as set out in section 9 of Article VIII of the substituted amended code.

The greater part of the hearing was devoted to testimony on differences between the industry's proposed code and the amended substitute code of the President's committee. At the suggestion of Dr. Greenbaum, the industry appointed a committee which will work with representatives of the President's committee in ironing out points of difference. The members of the brewers committee are: R. A. Huber, John Bruckman, C. C. Reeder, J. R. Beneman, G. P. McCabe, Ralph Jackman, E. J. Fitzpatrick, and T. C. Wins, secretary.

The following letter received from Louis Murphy, United States Senator from Iowa, addressed to AAA, was introduced into and made part of the record of the hearing:

"Brewing industry being developed rapidly in Iowa. Thirty out of state brewers now have Iowa market and despite law forbidding brewers interest direct or indirect in saloon fixtures, etc. many of them are intrenching themselves in retail distribution by giving free use of bar fixtures, novelty boxes, etc., conditioned on retailers selling their beer. Code provisions that brewers shall obligate distributors to refrain from this practice would prevent evil of brewery control distribution."

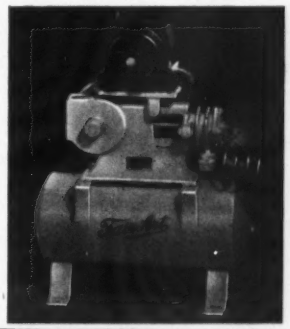
The "FAIR-ART" *does not* allow *Oil* or *Oil Fumes* to reach the *Beer*

The Air Compressor cylinder is separated from Crank Case housing. Needs no lubrication. Has special Heat Resisting, leak-proof cup leathers, which last longer than other methods.

Shipped completely assembled. Two sizes: No. 800—10 Tap capacity; No. T-800—20 Tap capacity.

A few territories still open for Distributors.

Fairbanks Engineering Co.
Worcester, Mass.



BEER BARS

Hotel and Restaurant Cooking and Serving Equipment and Supplies.

China — Glassware — Silverware

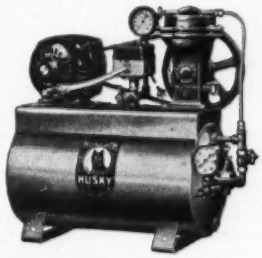
Write Today for Catalog No. 40 and Low Jobbers' Net Prices.

No. 20 BAR with body attractively finished in the new brown crystal enamel. *Ten other models in stock for prompt shipment.*

DUKE MANUFACTURING CO.
ST. LOUIS, MO.

MONARCH HUSKY COMPRESSORS

Pump Pure Air Only



No oil fumes to reach the beer. Bronze bearings throughout. Force feed lubrication. Quiet in operation. Completely assembled ready to install. Guaranteed for two years. A ready seller.

Write for exclusive distributor proposition.

The Monarch Engineering Co., Dayton, Ohio

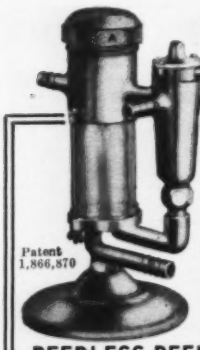
Latest Beer Equipment Catalog Sent on Request

Please Send Your Latest Catalog of Beer Dispensing Equipment for 1934.

Your Name.....
Firm Name.....
Address .....
City..... State.....

Cut Out and Mail to

FISHER BRASS INC.
Marysville, Ohio
New York Office & Warehouse—442 W. 49th St.



Cleans and Scours—Double Action

Here's a beer pipe cleaning machine that is really double acting—it rotates the solution in the coils, in both directions—and not only cleans but scours in its actions, going through coils and faucets in both directions.

With the Peerless the owner can leave pure water in his coils and faucets overnight and in the morning run fresh water back and forth, assuring fresh wholesome keg beer at all times—no tanks, coils, etc., to hold beer over night.
Tinned inside and out.

PEERLESS BEER PIPE CLEANER COMPANY
313 W. Chestnut St. Chicago, Ill.

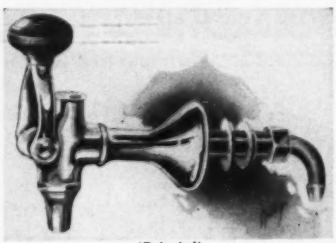
An **"OIL-LESS"** *Automatic*
BEER PUMP *Mfd. by*
DAYTON AIR COMPRESSOR
POSITIVELY PUMPS NO OIL!

The "Dayton White Cap" beer pump is ideal for dispensing draught beer in large volume—because it assures a good supply of clean, dry compressed air at all times. No pistons or rings—prevents pumping of any oil whatsoever into air line. ¼ HP motor—10 gal. tank—cuts out at 30 lbs. pressure and in at 20 lbs.—quiet operation—V-belt driven. Size 24"x25"x19"; Weight—80 lbs. net. Ask about Model Y-100.

"Dayton White Cap"

The DAYTON AIR COMPRESSOR CO.
"48 Years of Specializing"
425 Valley St., Dayton, Ohio

BEER STREAM UNDER CONTROL



(Patented)

With Hajoca Direct Stream Control Beer Faucets, Tap operator has complete control of Flow and Head. Not a drop wasted. No surplus head developed. No squirting. No excitement.

Send Today for sample. Test where you're having greatest troubles.

HAJOCA CORPORATION, PHILADELPHIA, PA.

WE specialize in high quality Coolers, Drain Boards and Work Boards. Can furnish any type to meet purchaser's specifications.

CHESTNUT WOOD
CORK INSULATED

High Class Metal Work only. Competent mechanics do all work.

BRONX BEER EQUIPMENT CORP.
MANUFACTURERS OF
BEER BARS and COOLERS
1162 SOUTHERN BOULEVARD, BRONX, N. Y.

Amendment Which Ends Prohibition

The following is the text of the Twenty-First amendment to the constitution, which voters have substituted for the Eighteenth amendment:

"JOINT RESOLUTION.

"Proposing an amendment to the constitution of the United States.

"Resolved, By the senate and house of representatives of the United States of America in congress assembled [two-thirds of each house concurring therein.]

"That the following article is hereby proposed as an amendment to the constitution of the United States, which shall be valid to all intents and purposes as part of the constitution when ratified by conventions in three-fourths of the several states:

"Section 1. The Eighteenth article of amendment to the constitution of the United States is hereby repealed.

"Section 2. The transportation or importation into any state, territory, or possession of the United States for delivery or use therein of intoxicating liquors, in violation of the laws thereof, is hereby prohibited.

"Section 3. This article shall be inoperative unless it shall have been ratified as an amendment to the constitution by convention in the several states, as provided in the constitution, within seven years from the date of submission hereof to the states by the congress."

Gives Lectures on Serving of Wines

During one week of the month of November, at the Blue Ribbon Spa, a combination sandwich shop and tavern at Jackson and Michigan Boulevard in Chicago, a series of lectures was given on the mixing of cocktails and the proper service of wines when, as and if these beverages become legal. During one of these lectures a telegram was received from the Manhattan Brewing Co., Chicago, stating that after repeal goes into effect, the alcoholic content of beer will be between 5 and 6 percent. Henry H. Davis, sales manager of the brewing company, reports that his company has been making a brew of about this potency for the past two months.

New York Will Have Wine and Spirits Show

New York will entertain a Wine and Spirits Show beginning Dec. 18. For four days, the first show of its kind in many years will occupy parts of two floors of the Hotel Astor.

SOMETHING NEW!

BLOCK TIN PIPE

WITH

GUARANTEED UNIFORMITY OF WALLS

WHITE METAL ROLLING & STAMPING CORP.

PROVIDENCE R. I. (Branch) **80 MOULTRIE ST. BROOKLYN, N. Y.**

Beer Plumbers

write for information on how to save 30%-80% on material costs with

Beer Coils of Alcoa Aluminum

Here's how to get more of those profitable beer plumbing jobs. By using beer coils of ALCOA Aluminum, you can quote lower prices, yet turn out better jobs.

1. ALCOA Aluminum tubing costs only 1/3—1/6 as much as other commonly-used tubing.

2. It's made of a special, extra-sturdy alloy that resists puncturing, stands pounding much better than "soft" metals commonly used.

3. It's easier to form—can be bent by hand. Literature on bending will be sent to all who send in coupons.

4. It resists corrosion—needs no protective coating or lining.

5. It's non-toxic—doesn't affect the taste, color, composition or clearness of the beer in any way. The Schwarz Laboratories, prominent beer chemists, found in an exhaustive study, that "the physical properties of beers stored in aluminum and aluminum alloy tanks are entirely normal." A copy of the Schwarz report will be sent free to all who return coupons.

6. It lasts longer, costs practically nothing to maintain. It can be cleaned with simple cleansers.

In your next estimate, quote beer coils of ALCOA Aluminum. Just mail the coupon, and we'll show you how to figure the material costs on any specific job.

ALCOA ALUMINUM beer coil tubing is available in principal cities. If your regular supply house doesn't have it in stock, please write to ALUMINUM COMPANY *of* AMERICA; 1852 Gulf Building, PITTSBURGH, PENNSYLVANIA.

Meanwhile, mail the coupon today for your free estimate.

ALCOA
ALUMINUM

USE THE COUPON

NRA

Aluminum Company of America
1852 Gulf Building
Pittsburgh, Pennsylvania

Gentlemen:
I would like to know the cost of . . . . . feet of ALCOA Aluminum tubing for beer coils. This request does not obligate me in any way.

Also send me the following:
. . . . Schwarz Laboratory Report.
. . . . Bending Information.

Name . . . . . .

Street and Number . . . . . .

City . . . . . State . . . . . .

Bastian-Blessing modern tap-room installation for Hotel Brevoort famed rendezvous of Chicago epicures.

Your guide to profits is ready for you

HERE'S profit-preparedness for you—the new "Basbleco" 16-page catalog, *Safeguarding Beer Profits With Better Dispensing Equipment.* It is your guide to profits in the new day now at hand.

It enables you to offer a complete range of authoritative equipment from a single keg novelty box to a complete, distinctive, "atmosphere" installation of any size, backed by BASTIAN-BLESSING service and experience of nearly a half century . . . a real profit opportunity . . . if you act NOW. The Bastian-Blessing Company, 242 East Ontario Street, Chicago.

TEAR OFF AND MAIL . . . NOW!!
Just rip off the bottom of this announcement, pin it to your letter head, jot down your name, and your copy with all information will be sent you at once. Not the least obligation on your part.

BASTIAN-BLESSING

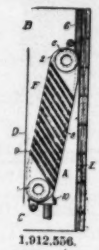
Manufacturers of approved dispensing equipment for nearly half a century.

New Ideas From Patent Office

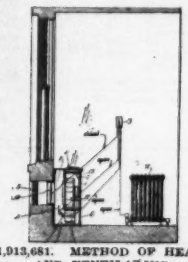
Heating Department

1,912,556. Heating Convector. Robert S. Wentworth, Johnstown, Pa., assignor to National Radiator Corporation, Johnstown, Pa., a Corporation of Delaware.

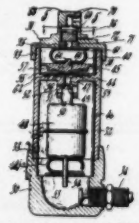
1,913,681. Method of Heating and Ventilating. Gerald E. Otis, Moline, Ill., assignor to The Herman Nelson Corporation, Moline, Ill., a Corporation of Illinois.



1,912,556. HEATING CONVECTOR



1,913,681. METHOD OF HEATING AND VENTILATING.

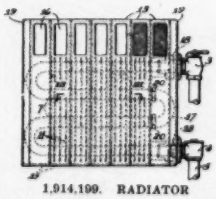


1,912,867. RADIATOR VALVE

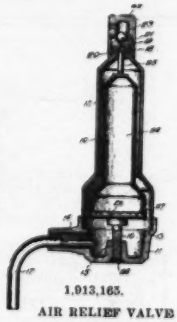
1,912,867. Radiator Valve. Christopher G. Thibodeau, Arlington, Mass., assignor to Frank W. Zinn, Boston, Mass.

1,913,942. Humidifier. Arthur B. Modine, Racine, Wis., assignor to Modine Manufacturing Company, Racine, Wis., a Corporation of Wisconsin.

1,913,942. HUMIDIFIER



1,914,199. RADIATOR



1,913,165. AIR RELIEF VALVE

1,914,199. Radiator. Archibald H. Davis, Jr., New Castle, and Paxson Winsborough, Pittsburgh, Pa., assignors to Shaw-Perkins Manufacturing Company, Pittsburgh, Pa., a Corporation of Pennsylvania.

1,913,165. Air Relief Valve. Fred W. Leuthesser, Oak Park, Ill.

1,914,435. Heat Regulating Device. Leon L. Kuempel, Minneapolis, Minn., assignor to Minneapolis-Honeywell Regulator Company, Minneapolis, Minn., a Corporation of Delaware.

18,875. Heating and Ventilating Unit. Morton O. Snediker, Chicago, Ill., assignor to The Powers Regulator Company, Chicago, Ill., a Corporation of Illinois.

1,914,197. Radiator. Archibald H. Davis, Jr., New Castle, and Paxson Winsborough, Pittsburgh, Pa., assignors to Shaw-Perkins Manufacturing Company, Pittsburgh, Pa., a Corporation of Pennsylvania

1,914,196. Radiator. Archibald H. Davis, Jr., New Castle, and Paxson Winsborough, Pittsburgh, Pa., assignors to Shaw-Perkins Manufacturing Company, Pittsburgh, Pa., a Corporation of Pennsylvania.

SPEED MEANS PROFIT—

and Yager's Soldering Salts is one of the reasons you can leave the job with as little delay as possible. Try Yager's. See for yourself why plumbing contractors everywhere are adopting it as standard for lead work.

NRA WE DO OUR PART

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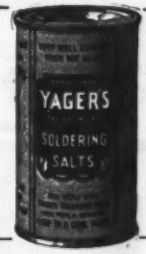

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CANADIAN GENERAL ELECTRIC CO.
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See McRae's 1933 Blue Book for list of distributors.

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1934 will find plumbing and heating buying reaching a volume unheard of in recent years. Inflation, now close upon us, regardless of the manner in which it comes, always brings with it an unprecedented demand for real estate. A real estate demand increases new plumbing and heating buying, remodeling and replacement.

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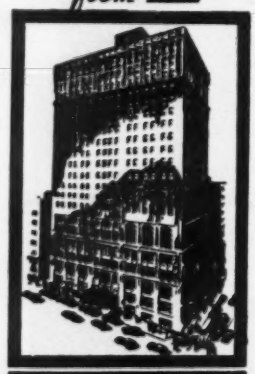

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Resident Manager

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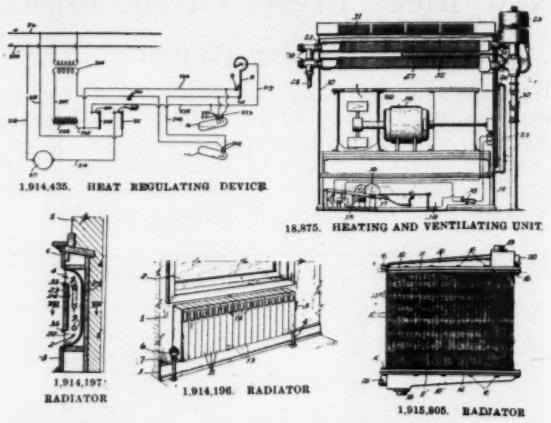
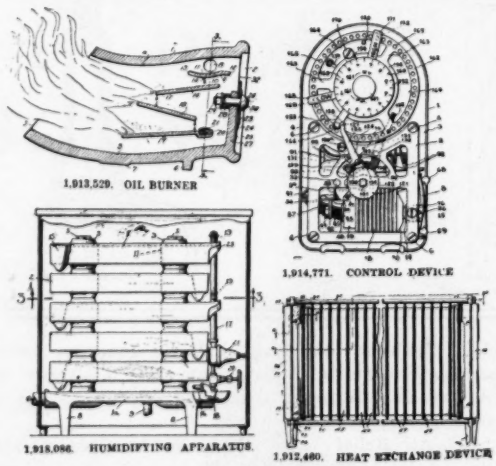


1,915,805. Radiator. Arthur G. Sutcliffe, Chicago, Ill., assignor to Ilg Electric Ventilating Company, Chicago, Ill., a Corporation of Louisiana.

1,913,529. Oil Burner. William R. Winsell, Kansas City, Mo.

1,914,771. Control Device. Lewis W. Eggleston and Earnest J. Dillman, Detroit, Mich., assignors to American Radiator Company, New York, N. Y., a Corporation of New Jersey.

1,918,086. Humidifying Apparatus. George D. Doherty, Evanston, Ill., assignor to Doherty-Brehm Company, Chicago, Ill., a Corporation of Delaware.



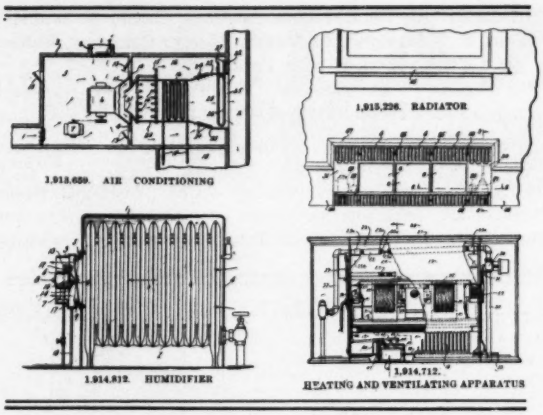
1,912,460. Heat Exchange Device. James F. McIntire, Detroit, Mich., assignor to United States Radiator Corporation, Detroit, Mich., a Corporation of New York.

1,913,659. Air Conditioning. Thomas Chester, Pittsburgh, Pa.

1,915,226. Radiator. Karl F. Hamacher, Lake, Wis.

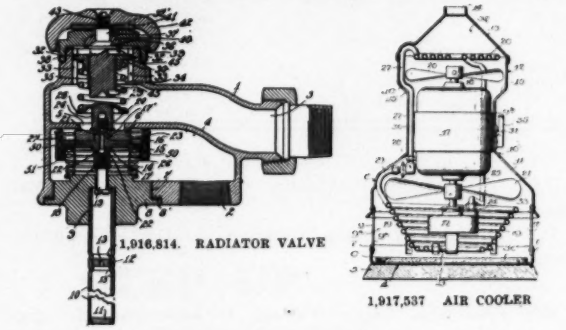
1,914,812. Humidifier. Leo Kresser, Springfield, Mass., assignor to United American Bosch Corporation, Springfield, Mass., a Corporation of New York.

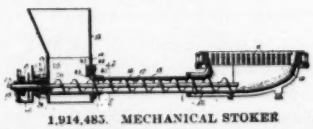
1,914,712. Heating and Ventilating Apparatus. Warren Ewald, Columbus, Ohio, assignor, by mense assignments, to Buckeye Blower Company, Columbus, Ohio, a Corporation of Delaware.



1,916,814. Radiator Valve. Paul F. Shivers, Wabash, Ind., assignor to Minneapolis-Honeywell Regulator Company, Minneapolis, Minn., a Corporation of Delaware.

1,917,537. Air Cooler. L. W. Melcher, Winnetka, Ill.

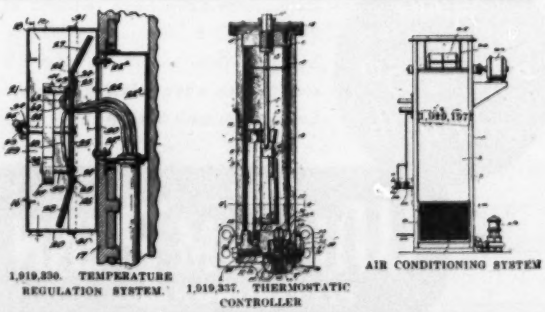




1,914,485. Mechanical Stoker. Warren Dean Burton, Oak Park, Ill., assignor to Combustioneer, Inc., Cicero, Ill., a Corporation of Illinois.

1,919,330. Temperature Regulation System. John C. Hornung, Glencoe, Ill.

1,919,337. Thermostatic Controller. John M. Larson, Chicago, Ill., assignor to National Regulator Company, Chicago, Ill., a Corporation of Illinois.



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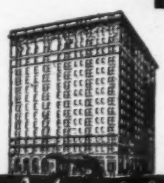
O. P. GREATHOUSE, *Manager*



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Hotel Davenport
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Hotel Hanford
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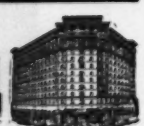


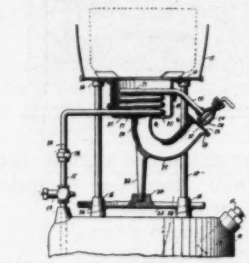
Hotel Saint Paul
St. Paul, Minn.

1,919,197. Air Conditioning System. Claude A. Bulkeley, Buffalo, N. Y., assignor to Niagara Blower Company, Buffalo, N. Y., a Corporation of New York.

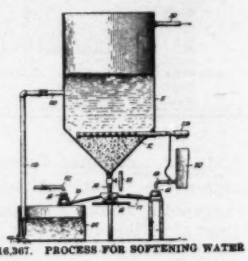
Plumbing Department

1,919,093. Down Draft Plumber's Furnace. William J. Collison, Bakersfield, Calif.

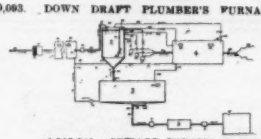
1,916,367. Process for Softening Water. Walter H. Green, Chicago, Ill., assignor, by mesne assignments, to The Permutit Company, New York, N. Y., a Corporation of Delaware.



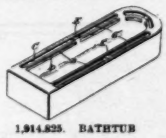
1,919,093. DOWN DRAFT PLUMBER'S FURNACE



1,916,367. PROCESS FOR SOFTENING WATER



1,915,240. SEWAGE PURIFICATION



1,914,825. BATHTUB

1,914,825. Bathtub. Kelsie B. Ford, East Orange, N. J.

1,915,240. Sewage Purification. Alfred R. Putnam, Valparaiso, Ind.

18,909. Water Softening Apparatus. Edward T. Turner, Dayton, Ohio.

San Francisco, Calif.—William J. Bowerman, Jr., has moved his plumbing and heating business from 1109 Divisadero street to 2009½ Golden Gate avenue.

San Francisco, Calif.—Ernest J. Richter has moved his plumbing and heating business from 2089 Fifteenth avenue to 618 Holloway street.

San Francisco, Calif.—J. D. Marrs has moved his plumbing and heating business from 706 to 608½ Geary street.

Oklahoma City, Okla.—W. H. Maher, for the last six years a member of the plumbing firm of Cosgrove & Maher, has sold his interest in this business and has accepted a position as superintendent for the O'Connor Company in Muskogee, Okla. This renews an old association between Eugene O'Connor and William H. Maher, because Mr. Maher was associated with Mr. O'Connor seventeen years before he joined the Cosgrove firm.

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Experienced in Rubber Specialties. Only those calling on trade desired. Cooperating with NRA, we are opening new territories. Exclusive rights to producers. Liberal commissions. Give complete information first letter. Koehler Rubber Company, Cleveland, Ohio.

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POSITION WANTED: POSITION WITH manufacturer who desires intelligent representation among the Jobbers of Plumbing Supplies. Have years of experience and personal acquaintance with all Jobbers east of the Rockies. Highest Class References. Well qualified to get the business. Address Key 895, "Domestic Engineering," 1900 Prairie Ave., Chicago, Ill.

FOREMAN-ESTIMATOR, PLUMBING-heating, thoroughly experienced job superintendent, expert mechanic, technical graduate, desires position where ability is appreciated. Address Key 919, "Domestic Engineering," 1900 Prairie Ave., Chicago, Ill.

Lines to Handle

STEP UP *Your* earnings!

Enjoy extra commissions this Winter representing well-known line of Cast Iron and Malleable Pipe Fittings. We've a real proposition, offering possibilities for a substantial, profitable, permanent, REPEAT business—to producers. Write for it today. Address Key 917, "Domestic Engineering," 1900 Prairie Ave., Chicago, Ill.

Representatives Wanted

MANUFACTURER OF PLUMBERS' brass goods desires direct factory representation—Strictly commission basis. Give qualifications, experience, lines represented. Address Key 904, "Domestic Engineering," 1900 Prairie Ave., Chicago, Ill.

WANTED: MANUFACTURERS' agents wanted to carry as side line malleable iron fittings, drainage fittings and cast iron specialties to jobbers and larger plumbing contractors. Address Key 916, "Domestic Engineering," 1900 Prairie Ave., Chicago, Ill.

WANTED: MANUFACTURERS' REPresentative to sell a new and much needed household necessity wholesale and retail. Unusual straight commission basis. The United Electric Corporation, Canton, Ohio.

SALES REPRESENTATIVE WANTED to carry side line of boiler water treatment selling to wholesale plumbing and heating supply trade. Guaranteed to remove all scale, rust, corrosion, and clean the boiler thoroughly. De Witt Products Corporation, 19153 John R St., Detroit, Mich.

Lines Wanted

Reliable Manufacturers' Representative Covering metropolitan district desires an additional line for distribution to the plumbing and heating jobber. Thorough knowledge of credit and possible volume of jobbers in this territory. Address Key 915, "Domestic Engineering," 1900 Prairie Ave., Chicago, Ill.

WELL ESTABLISHED MANUFACturers' agent in Chicago territory is in position to take on and do a good job with an additional line. Would prefer a unit heater or indirect water heater account. Address Key 920, "Domestic Engineering," 1900 Prairie Ave., Chicago, Ill.

Wanted to Buy

WANTED TO BUY: ONE NUMBER 1-2-4 Toledo pipe threading machine. Manufacturers' Supply Co., 1439 N. High St., Columbus, Ohio.

WILL PAY CASH FOR GOOD USED Standard Toledo Power Drive. State price, condition, serial number, horse power and type of motor. Henry Reuter, 312 N. Madison, Peoria, Illinois.

WANTED: TOLEDO OR BEAVER power pipe cutters 2½" to 8". State use tool has had and your price. Manufacturers' Supply Co., 1439 N. High St., Columbus, Ohio.

For Sale

YOUR OPPORTUNITY. DIRECT TO you and supply business in Ohio city of 350,000. Owner has been in business in present location twenty years. Also operates a separate contracting office. Desires to dispose of one or the other. Inventory approximate $15,000.00 Will sell at jobber's cost and give five years' free rent. Further particulars, address Key 918, "Domestic Engineering," 1900 Prairie Ave., Chicago, Ill.

FOR SALE: PLUMBING, HEATING, electrical business in central Missouri. Fair trade. Owner sick, must sell. Address Key 914, "Domestic Engineering," 1900 Prairie Ave., Chicago, Ill.

FOR SALE: PLUMBING SHOP, DOing good business. Best town and climate on coast. Small investment. John Doyle, 719 Winslow St., Redwood City, Calif.

NOTICE TO BUYERS

On Page 133 is an announcement that is important to every buyer of plumbing and heating supplies.

Manufacturers' Representative

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N R A Member
School Bldg., Laurel Springs, N. J.

We Pay Cash for Pipe Couplings

or we will allow highest trading value in exchange for our complete line of Malleable and Cast Iron Fittings, Pipe, Nipples, Unions and Brass Goods.

Write today for full details.

CINCINNATI NIPPLE & MFG. CO. INC.

1557-63 Gest Street, Cincinnati, Ohio

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1½ x ¾
RED. ELLS

Send for free booklets for plumbers: "How to Label Plumbers Stock Bins"; "Training the Store Room Apprentice to Know His Goods"; "How to Tag Stop Valves"; "How to Lay Out the Plumbing and Heating Shop"; samples of Plumbers Bin Labels; metal card holders; celluloid protectors.

HADDON BIN LABEL CO.,
HADDON HEIGHTS, N. J.

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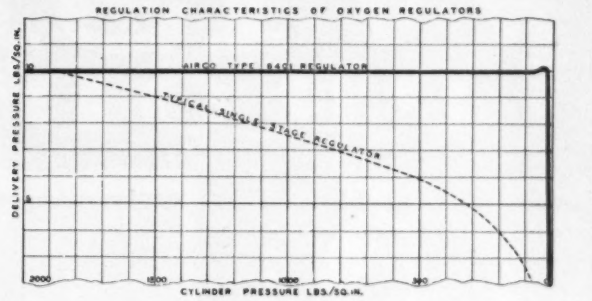

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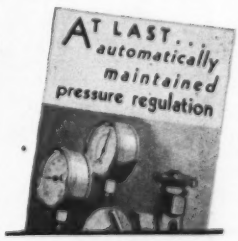

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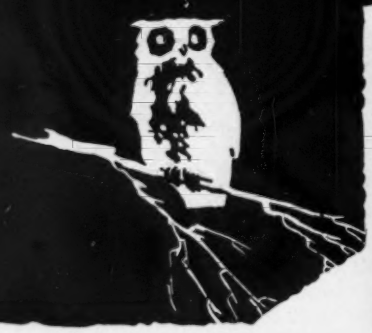

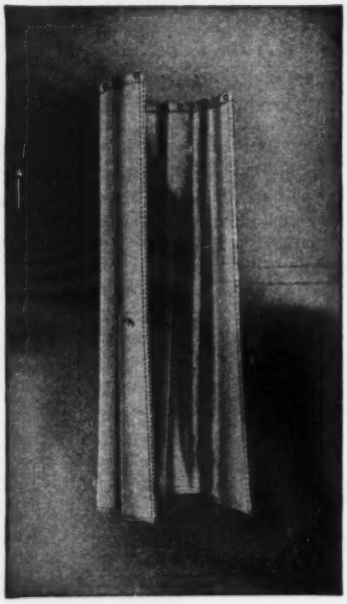

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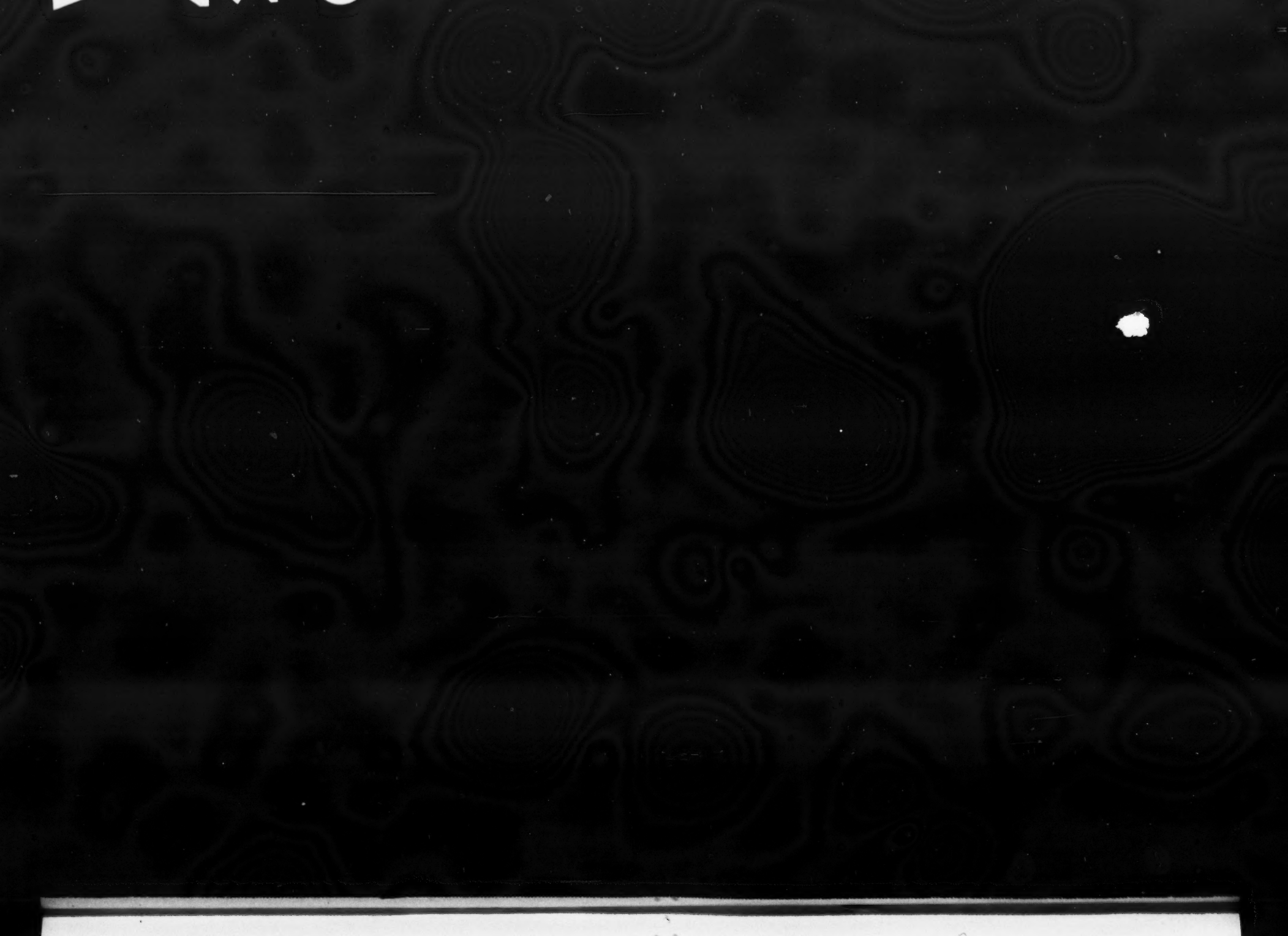
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